
00023954

THE
ASIATIC SOCIETY OF BOMBAY
Town Hall, Bombay.

00023954

Digitized with financial assistance from

HT Parekh FOUNDATION

An Initiative by HDFC
WITH YOU, RIGHT THROUGH

on 15 October, 2018

THOMAS BEST JERVIS.

THOMAS BEST JERVIS,

LT.-COLONEL, H.E.I.C.'s BOMBAY ENGINEERS; F.R.S., F.R.G.S., F.R.A.S., F.G.S.; DIRECTOR OF THE TOPOGRAPHICAL AND STATISTICAL DEPOT, WAR DEPARTMENT (NOW INTELLIGENCE DIVISION),

B 2330

AS CHRISTIAN SOLDIER, GEOGRAPHER, AND FRIEND OF INDIA,

1796—1857.

23954

23954

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY.

A Centenary Tribute

BY HIS SON,

W. P. JERVIS,

CONSERVATOR OF THE ROYAL ITALIAN INDUSTRIAL MUSEUM, TURIN, F.G.S.; *M. of Italian Geological Soc., Rome, Corr. of Impl. and Royal Geological Institute, Vienna;*

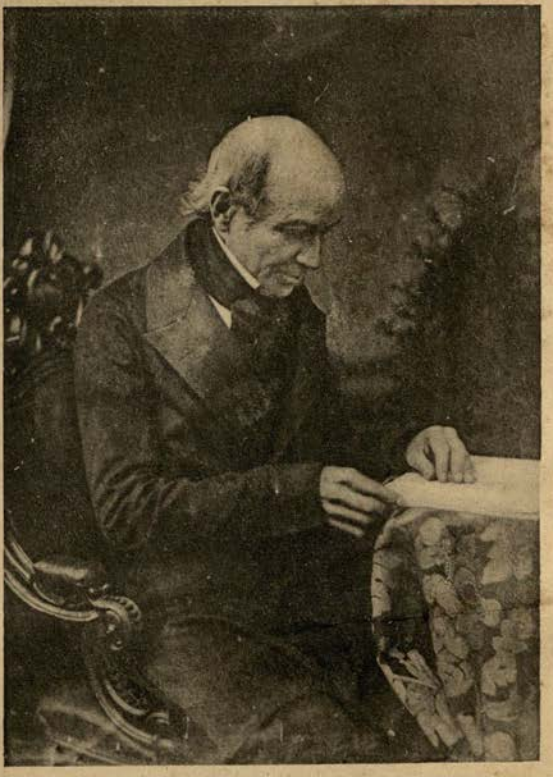
CHEVALIER OF STS. MAURICE AND LAZARUS; OFFICER OF THE CROWN OF ITALY.

XX-K-68

LONDON:
ELLIOT STOCK, 62, PATERNOSTER ROW, E.C.
1898.

gr. 3.542
Jenkins/Thomas
23954





S.a.d.a.g., Geneva

J. B. Jervis.
Lt Col.t Engineers.

Printed in Switzerland

PREFACE.

'My boast is not that I deduce my birth
From loins enthroned, and rulers of the earth;
But higher far my proud pretensions rise—
The son of parents passed into the skies.'

COWPER.

IN preparing the present simple memoir, it has been my desire to record a few facts connected with the very active and varied career of my illustrious father, by carefully selecting some of the most interesting passages from the manuscripts he left, which, it is needless to add, were never intended for the public eye. Fully have I felt the great delicacy of my position, and the presumption I should have had were I to have passed a more or less biassed judgment upon the acts of a much-loved parent, and thus I have striven, as far as possible, to give an autobiography, by using his own words.

Forty years have now revolved since my father passed away from this scene of life, and very few of those who personally knew him, and esteemed his character as well as his attainments, still survive. No one could have felt more keenly than myself his incompetency to write a biographical sketch of true greatness such as this, and long did I hesitate in doing so. But now I feel it to be a solemn duty to offer the British public a CENTENARY TRIBUTE to his memory, presenting an abundance of historical facts well worthy of being remembered, often strangely contrasting with the present advanced state of things. Both in India and in our own beloved country we are in the enjoyment of much solid good which we owe to our forefathers, nor must we ever forget the gratitude we owe them for it.

Both the mind and the heart of my dear father were of the largest and most comprehensive nature, as the reader will not fail to perceive. To the courage and stern conception of duty of the soldier to his Sovereign and country

he united a peculiar tenderness in private life, which transpired in his writings to his family and friends. His grandfather, his father, and he himself, passed their lives in the service of the Hon. East India Company, and he had the greatest affection for the people of India; to the last the best interests of India were uppermost in his mind.

It is scarcely a matter of opinion that my gifted father, possessed of a very thoughtful, mathematical turn of mind, was in a very remarkable degree in advance of his times in devising useful measures. I will merely mention a few, leaving the reader to draw his own conclusions: The generalization of instruction in India to all, of whatever nationality, caste, or religion, by vernacular instruction through the medium of the best publications, such as we use at home; the regeneration of society in India by the instrumentality of females; the abolition of transportation of criminals to New South Wales; the wide diffusion of correct maps on a large scale, and of uniform projection, and the teaching of descriptive physical and political geography, in lieu of dry lists of names; as also his proposals to Government to introduce the penny receipt stamp and Post Office money orders in India.

To be faithful to the etymology of the word, a biography should not only consist in the enumeration of a man's deeds, but likewise include his private life, since the greatest acts cannot excuse neglect of conduct. I have, without comment, exhibited my father as by the light of the Röntgen rays, so as to depict his soul as well as his genius. If the courteous reader should differ from his convictions, he will not fail to admire the noble Christian, who was an honour to the cause he professed, and to the Indian Army.

A brief review of my father's *works*, with numerous original illustrations, would form a second, highly instructive volume, should I ever have the opportunity of editing it.

My warmest thanks are due to the only remaining Indian friend of my father's (to my knowledge), the Rev. Dr. J. Murray Mitchell, missionary to Bombay, for the help and encouragement he has afforded me.

W. P. JERVIS.

TURIN,
December, 1897.

CONTENTS.

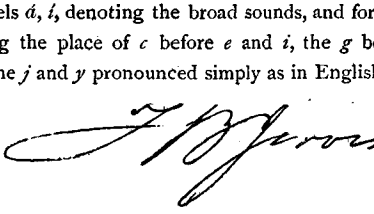
CHAPTER		PAGE
	PREFACE	v
I.	THE LITTLE ORPHAN FROM JAFFNAPATAM SENT TO ENGLAND—HIS SCHOOL AND ACADEMIC DAYS—IS GAZETTED ENSIGN OF THE BOMBAY ENGINEERS, AND SAILS FOR INDIA IN THE FLEET	1
II.	THE YOUNG ENGINEER OFFICER—ACCOMPANIES THE EXPEDITION TO THE PERSIAN GULF—APPOINTED TO MAKE THE STATISTICAL, GEOGRAPHICAL, AND TOPOGRAPHICAL SURVEY OF THE SOUTHERN KONKAN	9
III.	THE EDUCATOR AND FRIEND OF INDIA—HE MEETS MISS ANNE SARAH PAGET AT THE GOVERNOR'S FAREWELL ENTERTAINMENT—THEIR MARRIAGE—BUILDS THE CHURCH AT BELGAUM	29
IV.	CAPTAIN JERVIS—RETURNS TO ENGLAND ON FURLOUGH—ELECTED F.R.S.—LIFE AMONG THE SCIENTIFIC MEN OF THE DAY—RETURNS TO INDIA—RETIRES FROM THE SERVICE WITHOUT TAKING UP THE APPOINTMENT OF SURVEYOR-GENERAL OF INDIA—HOME IN ENGLAND—DEVOTES HIMSELF TO THE ADVANCEMENT OF ASIATIC GEOGRAPHY AND THE EDUCATION OF THE NATIVES OF INDIA	46
V.	CORRESPONDENCE WITH HIS FAMILY	62
VI.	ON THE FRAME OF MIND IN WHICH SCIENCE SHOULD BE TAKEN UP, AND THE SUBLIME TEACHINGS OF ASTRONOMY—THE IMMEASURABLE DELIGHT AND INSTRUCTION WHICH IT AFFORDS	101
VII.	RESPONSIBILITY OF BRITISH CHRISTIANS TO DIFFUSE THE SOURCE OF COMFORT AMONG SOLDIERS AND SAILORS, AND AMONG OUR INDIAN FELLOW-SUBJECTS—FEMALE EDUCATION IN INDIA	118

CHAPTER		PAGE
VIII.	CORRESPONDENCE CHIEFLY WITH MISSIONARIES IN INDIA	135
IX.	CORRESPONDENCE RELATING TO THE MEANS MOST FITTING TO BE EMPLOYED FOR THE EDUCATION OF THE NATIVES OF INDIA	166
X.	CORRESPONDENCE ON SCIENTIFIC, EDUCATIONAL, AND PROFESSIONAL SUBJECTS	194
XI.	CONSIDERATIONS ON THE FUTURE ADMINISTRATION OF THE COLONIES AND INDIA, AND ON THE EMPLOYMENT OF CONVICTS, NO LONGER TO BE SENT TO AUSTRALIA	227
XII.	SCIENTIFIC GEOGRAPHY A BOON TO HUMANITY	248
XIII.	THE EXPERIENCED GEOGRAPHER AND THE CRIMEAN WAR—RE-ASSUMES ACTIVE SERVICE AS ORGANIZER AND DIRECTOR OF THE TOPOGRAPHICAL AND STATISTICAL DEPOT OF THE WAR DEPARTMENT—HIS ILLNESS AND PEACEFUL DEATH	255
XIV.	ORIGIN AND ESTABLISHMENT OF THE TOPOGRAPHICAL AND STATISTICAL DEPOT OF THE WAR DEPARTMENT (NOW THE INTELLIGENCE DIVISION)	268
XV.	CORRESPONDENCE WITH PRIVATE FRIENDS	299
XVI.	PERSONAL CHARACTER	322

ON ORIENTAL PRONUNCIATION.

'WITH regard to the orthography, I have been at great pains to ascertain the true names of every geographical object, and rendered them, as well as all Oriental terms, according to the system observed by the Asiatic Society of Calcutta, and the Royal Asiatic and Geographical Societies in this country, in which I have to acknowledge the friendly aid of its three greatest scholars, Professor Horace Hayman Wilson, the Rev. G. C. Renouard, and the Rev. Dr. John Wilson, Honorary President of the Asiatic Society at Bombay. If the reader does not find every word written exactly according to his taste, I crave his indulgence, and can safely assure him that it would be far easier to express the varied intonations of the musical notes by literal signs, than the complicated sounds of Oriental alphabets by the manifold sounds of the English language, varying, as Eastern letters do, not only with the great national divisions of languages, but the characteristic distinctions of pastoral, nomade, military, and agricultural pursuits, as if the several avocations of people and tribes had induced peculiarities, which were the true distinguishing tests whereby all were to be traced up to one ancient original. The vowels of Turkey, of Persia, of Arabia, and of India, in one and the same word, *Bokhara*, for instance, are perceptibly different in all, and the interchange and sounds of the consonants, the liquids especially, vary indefinitely. Whether we should spell *Mohammedan*, *Turkisthan*, and such like words, according to one or other system, it matters not, provided it be as near as any other to the true pronunciation and mode of spelling. Where uniformity can be attained without any great departure from received usage, it is better to agree to adopt some

standard; and although there are objections to Sir William Jones's system, as well as to Gilchrist's—the two principal authorities with Oriental scholars on such subjects—the learned bodies have decided in favour of the former, to which the reader is at once furnished with a perfect key, by remembering that all the vowels are sounded as in the Italian, the accented vowels *á*, *í*, denoting the broad sounds, and for the rest the *ch* only supplying the place of *c* before *e* and *i*, the *g* being invariably hard; lastly, the *j* and *y* pronounced simply as in English.



I assume personally any blame for errors of accents or letters in rendering Indian names. Such would not have occurred had I had a better opportunity of consulting Dr. Mitchell. In a book intended for popular use, I do not pretend to be too minutely exact in the spelling, especially regretting not to have been able to consult Sir W. W. Hunter's beautiful Gazetteer of India; thus I beg the indulgence of the learned Orientalists. The transliteration of Indian words is like a wasps'-nest: there is no uniformity. Thus, we read of Cawnpore, Cawnpur, Kanhpur, and in French Caunpour. We have Panjab and Pandjab, Kalkutta, and such-like words.

Jonesian spelling: Bánkut, Chauk, Damán, Dakhan, Himalaya, Mahábalésvar, Pandharí, Peshwá, Pahlanpúr, kundí, zillá.

While generally adhering to the Jonesian spelling, yet certain well-known words are left in their popular form, as Poonah, Cutch, etc. I am fully aware that the Royal Asiatic Society has introduced a few changes in the Jonesian system (as, for instance *g* for *j*). Yet, as my father approved of that system, I do not see it needful to adopt such modification.

ERRATA.

Page 34, *for* 'Fjelsted,' *read* 'Fjelstedt.'
,, 42, *for* 'Ironsides,' *read* 'Ironside.'
,, 65, *for* 'Lovell,' *read* 'Lowell.'
,, 158, *for* 'Shadrat,' *read* 'Shajrat.'

ILLUSTRATIONS.

Phototype and Photozincographic Facsimiles, executed by the Société Anonyme des Arts Graphiques, at Geneva.

PORTRAIT OF LIEUT.-COLONEL JERVIS. (*From a photograph by Myall*) - - - - - - - *Frontispiece.*

LIEUTENANT-COLONEL JERVIS'S ARMS - - *To face Preface.*

THE ANGLO-FRENCH ALLIANCE DURING THE CRIMEAN WAR (*Facsimile of T. B. Jervis's Handwriting. Much reduced*) *To face p.* 1

VIEW OF MAHÁBALESHWÁR, THE 'INDIAN RIGI.' (*From a water-colour drawing by Mrs. Jervis*) - - *To face p.* 38

FOREST GROWTH OF INDIA. (*From a pen-and-ink drawing from Nature by T. B. Jervis*) - - - - *To face p.* 77

CHINAMI, THE 'BELLE OF OOTACAMUND,' NILGIRI HILLS. (*From a portrait drawn from Nature by T. B. Jervis*) . *To face p.* 129

PLAN OF BELGAUM CHURCH, DESIGNED AND BUILT BY CAPTAIN JERVIS. (*Considerably reduced*) - *To face p.* 135

SPECIMEN OF LITHOGRAPHY AT MAJOR JERVIS'S PRIVATE PRESS. (*Much reduced*) - - - - *To face p.* 171

KOTAR ABORIGINE OF THE NILGIRI HILLS. (*From a portrait drawn from Nature by T. B. Jervis*) - - *To face p.* 179

SPECIMEN OF T. B. JERVIS'S HILL SURVEY OF INDIA, MAHÁBALESHWÁR - - - - - - *To face p.* 200

CHURCH OF ST. JOHN'S IN THE WILDERNESS, EXMOUTH, WITH TOMB OF LIEUTENANT-COLONEL T. B. JERVIS *To face p.* 266

PORTRAIT OF CAPTAIN JERVIS, AGED 34. (*From an oil-painting by Hopwood*) - - - - - *To face p.* 322

ORIGINAL DRAFT OF PROPOSAL OF PENNY RECEIPT STAMPS, COMMUNICATED TO EARL GREY IN 1849. (*Considerably reduced*) - - - - - - *To face p.* 329

CAPTAIN JERVIS'S HOUSE AT BELGAUM, BUILT AROUND AN ANCIENT JAIN TEMPLE. (*From a pen-and-ink drawing by T. B. Jervis*) - - - - - *To face p.* 332

Londres, Adelphi Terrace 9
le 24 Octobre 1854

Monsieur,

La gloire de l'Armée Française à laquelle l'histoire ne manquera jamais de faire hommage, vraiment digne de sa grandeur, sera à toujours associée avec le nom chéri de Celui qui s'y est trouvé au sein de sa propre famille — que l'a conduit à la victoire : — et vit encore même en ce moment, dans sa Majesté l'Empereur; dans les cœurs de ceux qui connaissent bien les intérêts de leur pays; de la civilisation; des droits des nations; — de l'aggrandissement des vraies richesses, et de l'honneur de la France; — surtout de cette heureuse union avec la Grande Bretagne; que Dieu veuille soit perpetuelle.

Simple sujet, et soldat, également intéressé comme tous nos compatriotes, soit de la France soit de mon propre pays, dans cette grande lutte

Le Secretaire de l'Empereur Chef du Cabinet
Monsieur Monsieur Morquand

THE ANGLO-FRENCH ALLIANCE DURING THE CRIMEAN WAR.

Photozincographic facsimile of Thomas Best Jervis's original (considerably reduced).

CHAPTER I.

1796-1813.

THE LITTLE ORPHAN FROM JAFFNAPATAM SENT TO ENGLAND—HIS SCHOOL AND ACADEMIC DAYS—IS GAZETTED ENSIGN OF THE BOMBAY ENGINEERS, AND SAILS FOR INDIA IN THE FLEET.

'These glorious minds, how bright they shine!
Whence all their white array?
How came they to the happy seats
Of everlasting day?'

WATTS.

WITH the vast spread of education characteristic of these times, the number of those who cultivate the various fields of science and add to its conquests, or shine with the brightest lustre in the sphere of moral worth, may indeed be called legion; and among this number what a large proportion of eminent persons fail to attract general attention, or have no opportunity of occupying positions for which their gifts of intellect or heart point them out as being so admirably qualified! Such is the vortex of passing events that our minds, no less than our bodies, seem to be ever impelled onwards, as in an express train; such the febrile activity of man in striving to embrace everything in his grasp, that, from sheer exhaustion, there would appear to be a growing tendency to neglect wise attention to past events, or to realize that the solid foundation of our present knowledge

was laid by our forefathers. It is thus that, to younger scientists, that eminent geographer, Thomas Best Jervis, who lived in the former half of the century, may be little, if at all, known. The principal cause for this fact must doubtless be ascribed to the want of a biographer, who should have recorded the multiform scientific attainments, the important geographical work, but especially the grand personal qualities and eminent Christian worth, of that distinguished engineer officer, the centenary of whose birth recurred but recently.

Thomas Best Jervis, Lieutenant-Colonel, East India Company's Engineers, Bombay Presidency, F.R.S., F.R.A.S., F.R.G.S., etc., Director of the Topographical and Statistical Depot of the War Department in London (since denominated the Intelligence Department), one of the most distinguished geographers and scientific men of the first half of the nineteenth century—moreover, an eminent Christian philanthropist and stanch friend of India—was born at Jaffnapatam, in the island of Ceylon, on August 2, 1796. He was the second son of John Jervis, of the Madras Civil Service, who was then Junior Merchant and Assistant to the Resident on the Island of Ceylon, which had only that year been acquired from the Dutch. He was afterwards Senior Assistant. His grandfather, Benjamin Jervis, of the Bombay Civil Service during twenty-seven years, became Chief of Surat, the seat of Government before it was transferred to Bombay, and died, as is supposed, from being poisoned, in 1774. He was the lineal descendant of a very honourable family of country gentlemen settled at Eccleshall (Staffordshire) since the days of King Edward III., in the middle of the fourteenth century, when Robert Jerveys or Jervys possessed the property of Chatkyll, which belongs to the family to this day. In old parish registers the name is sometimes spelt Gervys.

His mother, Elizabeth, was daughter of George Frederick

Ritzo, Esq., a gentleman of Polish extraction, and Secretary of German Letters to H.R.H. the Princess-Dowager of Wales, and whose family had been for generations in the royal household of the Georges, whom they accompanied to England from Hanover. On the female side the Grimms were her relatives. Baron Grimm resided in Prussia. The distinguished author Grimm was another relation, while Dr. Grimm subsequently became physician to Frederick William I., King of Prussia.

When Thomas Best Jervis was a year old his father died, in December, 1797, at the early age of twenty-seven, a short time after having unadvisedly sold the pearl fisheries of Ceylon, which had become his property. His mother, a young widow, shortly afterwards married Captain Whitlie of Madras, by whom she had one son, William, who became Lieutenant-Colonel of the Bombay Artillery, and died on his passage home to England in 1857.

The three brothers, George, Thomas and John, were sent home to England at a very tender age, the climate of India being unsuited to European children, and placed under the guardianship of their uncle, Mr. Justice Thomas Jervis, one of the twelve Judges of England, and formerly Member of Parliament for Chester. No trace remains of their young mother having ever troubled her head further about her three boys in England. She died at Hulí Honore in 1808.

Thomas was at once transferred to his aunt, Miss Mary Jervis, an excellent and pious lady, living at Lichfield, to whose watchful care he attributed with the liveliest gratitude that deep-rooted principle which was always one of his marked characteristics. The first school he went to was kept by a *dame*, and there, being taught with little girls, he was thoroughly grounded in English grammar and other subjects in those days neglected, and often entirely omitted, in boys' schools. From hence he doubtless acquired a habitual gentleness of disposition, manifested by uncommon tenderness of feeling even towards the brute creation, for

he never liked to inflict pain even on an insect. 'At Lichfield,' writes he, 'I passed the happiest days of my childhood,' and Mary Jervis, already advanced in years, was like a mother to him. From this city he was transferred to a school at Rugeley (Staffordshire), and subsequently went up to Justice Jervis, in London, by whom he was placed in Mr. Delafosse's classical school at Richmond (Surrey), where he studied indefatigably, realizing that he had to rely entirely on his own exertions for getting on in life. Such was his eager thirst for knowledge, that, instead of wasting his youth in shirking his lessons, he studied with the greatest earnestness, and was soon one of the most proficient in the school for his classical attainments, taking great delight in Latin and Greek poetry. He now became very desirous of acquiring an acquaintance with other subjects, to which no thought was devoted at classical schools. He procured some books on elementary mathematics, and studied them diligently, making himself by his zeal a favourite of Mr. Delafosse. He passed the holidays with his uncle at his house in Russell Square, London, close to the classical walls of the British Museum, the treasures of which he was afterwards to enrich by his valuable contribution of Indian inscribed antiquities.

His uncle had three sons, likewise called George, Thomas and John—afterwards Sir John, Attorney-General, and subsequently Chief Justice of the Common Pleas—and a daughter, Louisa. The Judge had overwhelming occupations in court and on circuit, and one of Thomas's boyish remembrances was that, when his uncle was called upon to adjudicate in cases involving the possible sentence of death, for several days he peremptorily ordered that no soul living should approach him under any pretext. The 'Indian boys' were treated by their aunt with little ceremony, causing them great sorrow. Thomas on these occasions still pursued his studies by himself, spending his scanty allowance of pocket-money to procure little French books,

a pencil, or something similar, exhibiting a delight in knowledge uncommon in a lad of his age, though shared in a degree by his elder brother George. He also persuaded his kind cousin Louisa to teach him a little French and drawing, always recalling with gratitude her simple lessons. Hence he was sent to Addiscombe Military College, to prepare for the Honourable East India Company's service. He had there a better opportunity of learning languages—French, Hindustani, etc.—and under the distinguished professors of that establishment he mastered Hutton's 'Course of Mathematics,' becoming, as he advanced in knowledge, enraptured with the subject, which he developed with unwearied delight in India in its highest branches, including geodesy and astronomical calculations.

This was an eventful and anxious period of British history, and one of bloody wars, which, as a fearful scourge to humanity, devastated Europe and immolated on the golden shrine of heartless ambition millions of the flower of youth, besides letting loose all the demons of human passion, which brought moral woe into the domestic hearths of a whole continent, and all with the most cynic indifference, gaining the phrenzied applause of an unreflecting multitude. Doubtless the ruddy hand of war was not productive of unmixed evil, since despotism also tottered on its lofty pedestal, and liberty of action and conscience dawned on the new horizon, ushering in the material and intellectual welfare of the long-neglected masses, and those blessings for which our ancestors of every class of society, from the royal palace to the meanest hovel, laid down their lives.

Young Jervis's uncle, Frederick Ritzo, a barrister, was travelling in France, with his wife, when hostilities broke out with Great Britain. They were made prisoners of war on *parole*, and sent to Verdun, on condition that they would not go outside the fortifications. They there received such friendship that nine long years slipped pleasantly away, and when peace was declared they had become

so far French that they spent much of their future life in France.

After remaining at Addiscombe the prescribed time, and possessing a clear mathematical mind, Thomas passed a most brilliant examination, and, being one of the foremost cadets of the year, he was enrolled as ensign in the Bombay Engineer Corps on June 1, 1813. He was, however, first sent to Worcestershire, under the command of General Mudge, R.A., to work on the original Ordnance Survey of England, in the neighbourhood of Bromsgrove, the result being subsequently engraved in the one-inch scale map of England.

To the loving example and educational counsels of his aunt, Miss Mary Jervis—whom he had an opportunity of seeing again at this period, as he walked from Bromsgrove to Lichfield (a distance of thirty miles) and back, between the Saturday and the Monday, when he had to resume his duties—he ever recurred, with grateful affection for the influence she had on his future life. Her parting gift was one of a few good books, and his aunt Scott gave him a pocket Bible, the spiritual teachings of which made an indelible impression on his character throughout his career, and imparted to him that courageous fidelity to duty which makes the noblest men. On the eve of sailing from Portsmouth, he there received a splendid letter of counsel from his relative, Mr. Wolferstan, of Statfold (Staffordshire), one which it has been considered well worthy of recording, since it unquestionably contributed, by God's blessing, to exercise a solid and lifelong influence for good on his character.

'*Mr. Thomas Jervis, cadet, Hon. East India Company's ship "Elphinstone," at Portsmouth, or elsewhere.*

'STATFOLD,

'DEAR COUSIN, '*December* 20, 1813.

'Your wish to receive a letter of advice from me before you leave England seems to prove that you are

aware how arduous is the situation of a young man just entering life at a distance from all those friends and relations by whose years and experience he might profit; and though the instructions I can give will be far inferior to what you may meet with in the works of Gisborne, Paley, and others, I give you the best I can, since you desire it.

'"I fear God, and have no other fear," was the motto of a great soldier and a good man; *be it yours*. But, then, remember that the fear of God, rightly understood, comprehends every duty, moral or religious. If you truly fear God, you will pray to Him daily; you will not only read your Bible, but make the precepts contained in it the law of your life; you will keep sacred the day set apart for His service, even when, unfortunately, you have no means of attending church; you will not choose your companions among the irreligious, however witty, or ingenious, or entertaining they may be considered. If you truly fear God, your lips will never utter a falsehood, though assured no *human* being can detect it; and to avoid this vice—so hateful in the eyes of Him who has called Himself a God of Truth, and who has described the great enemy of our race as "the Father of Lies"—you will shun every approach to it, every species of exaggeration, all tales of wonder intended to excite admiration in your auditors at the singular events that have befallen *you*, or that have come to your knowledge, all vaunting of your own exploits, even though real, lest the desire of applause should lead you in the end beyond the precincts of veracity. If you truly love God, you will labour to restrain every evil passion or propensity; you will be gentle, kind, and indulgent to all your fellow-creatures, more especially to those who are under your command or in your power. To the soldiers under you, you will consider yourself as a father and a friend; you will be careful of their lives and interest, watchful over their morals, patient with their failings, gentle in correction, remembering that you also have a Master in heaven. To the officers above you, you

will submit implicitly in everything consistent to your duty as a soldier, a man, and a Christian. If you truly fear God, you will be firm in your adherence to His service; you will not be laughed out of virtue or into vice.

'And here let me observe that you must arm yourself against the dangerous weapons of ridicule. If laughed at for your non-participation of any vice or folly, or for persisting in any rule laid down to yourself as a duty, take the jest patiently and mildly, show no rancour or malice in return, but continue immovable in your resolves. A jest frequently repeated ceases to be one. In a little time they will let you alone, and, possibly, in the end adopt the very conduct they had before contemned. At all events, your firmness and decision will ensure their respect. A man sincerely and rationally religious (by *rationally* I mean not led away by the wild enthusiasm of some well-meaning but ill-judging sectaries, so different from some of the plainest precepts of the Gospel)—a man, I say, sincerely and rationally religious will neither be ashamed of his religion, nor make an ostentatious display of it. It will be too dear to his heart never to show itself, yet too sacred to be brought in on all occasions and in all companies; but it will be chiefly by the *integrity* and *rectitude* of his conduct that he will show himself to be religious.

'One other subject I will just touch upon. If you would have tranquil spirits by day and calm sleep by night, never let your expenses exceed your income; and in order to do that, always know what you do spend: keep an exact account of all, and have no debts. I will now conclude, with our united wishes for your health and welfare.

'I remain,

'Your cousin and sincere friend,

'E. P. WOLFERSTAN.'

CHAPTER II.

1813—1829.

THE YOUNG ENGINEER OFFICER—ACCOMPANIES THE EXPEDITION TO THE PERSIAN GULF—APPOINTED TO MAKE THE STATISTICAL, GEOGRAPHICAL, AND TOPOGRAPHICAL SURVEY OF THE SOUTHERN KÓNKAN.

'Around the man who seeks a noble end,
Not angels, but divinities attend.'

EMERSON.

THE period at which we have arrived in the narrative was one of intense anxiety throughout Europe. Napoleon had led the largest forces ever collected into the heart of Russia, with too slight a knowledge of the physical geography of a country whose winter mantle of snow is her great ally, and under which the bravest troops of veterans by hundreds of thousands were to find a grave, often ere they died. In spite of such cold-blooded sacrifice of men destined for a better fate, the restless conqueror was contemplating fresh hecatombs of his fellow-creatures. The war was still raging with France when our young officer embarked in the fleet which was despatched to convoy some Indiamen sailing from Portsmouth. 'It was my lot,' writes he, 'to sail for Bombay in 1813, with the first missionaries who went out to the western shores of India, under the benevolent Dr. Coke, who died at sea, on board the *Cabalva*.' He set foot in India in May, 1814, from which time

onwards, like his great relative, Admiral John Jervis—who had been created Earl of St. Vincent after his memorable naval victory in 1797, and had filled the high office of First Lord of the Admiralty—he could say that he had to make his own way in the world exclusively by his personal merits and exertions.

Owing to his great humility of disposition, it was seven and a half years before he rose to the rank of Lieutenant.

'In October, 1819,' writes he in 1837, 'I was appointed Executive Engineer of the Southern Konkan, which province had, a few months previous, been conquered from the Peshwah and other feudatory Marátha chiefs, by the British troops, under Major-General Sir William Grant Keir, and the respective divisions under Colonels Imlach, Kennedy, and Prother. The numerous rocky heights of this wild and mountainous territory, hitherto crowned with forts and defences, scattered here and there, presented a strong military frontier to the Marátha dominions, and the forts themselves a safe and immediate place of deposit for the public treasure, as well as an asylum to the wealthier or defenceless inhabitants in the event of sudden eruptions of plundering hordes or hostile armies. The revenue being collected in kind—which system was not modified or discontinued for some time after we had occupied the country—they further served as secure depots for the Government grain, which was dispensed to the native retainers in lieu of pay.

'It was not till some time after we had obtained possession of the country that we could come to a proper understanding of the real object of these defences, and for a time it was judged expedient, in addition to the order of the Commissioner of the Deccan, the Hon. Mountstuart Elphinstone, peremptorily forbidding the inhabitants to go abroad with, or, indeed, have any, weapons on their persons or in their houses, to maintain and garrison the several forts.

'By degrees the principal of these forts—twenty-six in number—were either dismantled or suffered, with many

others of inferior note, to go to ruin, the chief only being kept up and garrisoned at this present, and those chiefly as depots for ordnance and commissariat stores. The superintendence and report of the yearly maintenance of these forts and the buildings within them in a state of repair, together with the buildings in the cantonments at Dapúlí, Chowk, and Vingorla, fell to me, and I discharged all such duties under difficulties of a peculiar nature, in such spirit and with such energy as to draw forth the most honourable testimonial from the principal Magistrate and Collector. I discharged them also to the very great satisfaction of his Excellency the Commander-in-Chief, the Hon. Sir Charles Colville, the commanding officer of the division, and the Military Board, whose testimonials were not only frequently conveyed to me—the former two personally—but are now on record.

'In addition to this military duty, I was required by the Chief Engineer and Government to conduct the whole of the civil buildings then to be newly erected for the Collector of Revenue and Judge, the *cutcherri*, the courts of justice, gaol, roads, bridges, tanks, and other minor works. . . .*

'In a newly-conquered country, where there had not been a European establishment or station before, excepting at the petty commercial residencies of Bankút and Malwan, all things had to be done anew. There were absolutely neither workmen nor materials, such as were expected or required in many instances for large public works and buildings; all depended mainly on the temper, industry, energy, and foresight of the superintendent.' In order to procure lime for mortar, no limestone being forthcoming, he bethought himself of getting persons to collect the abundant large shells on the seashore, and erected a lime-kiln near the beach. [With regard to] 'those people, more especially who were about

* 'The sum expended on these several military and civil buildings was 288,439 rupees (about £33,000), in about equal parts for each. The actual cost of superintendence was 2¾ per cent.'—T. B. J.

the public offices in the capacity of writers and accountants, to watch over these, and, standing alone as I did, to maintain efficiency, despatch, and *rectitude*, demanded no ordinary vigilance; but to bring about all these objects, and obtain a permanent and public proof of their regard, was a higher testimonial. . . . The sentiments of the Hon. Court of Directors and the Hon. Mountstuart Elphinstone have been placed on record in the Parliamentary papers published in 1832.'

Working hand and heart with the Collector of Revenue and Magistrate, the Konkanis soon felt that they had vastly gained by the change of rulers, and that henceforth their country had a bright future in store. But let the Collector speak for himself, to show how he valued such a colleague, young as he was:

'*To Ensign Jervis, Executive Engineer, Southern Konkan.*

'SOUTHERN KONKAN COLLECTOR AND MAGISTRATE'S OFFICE,
'*December* 5, 1820.

'. . . I cannot, however, allow myself to dismiss this subject without offering you my thanks for the admirable internal organization of a department so extensive as yours, the proof of the excellence of which lies in the fact that, during the whole of the time you have been in this *zillah*, during which period many thousands must have been in your employment, not *a single complaint against you from a native has ever reached my ears*, nor have you yourself had more than two or three complaints to prefer against them; and when it is considered that, instead of collecting workmen, as has too frequently been the practice, at the point of the bayonet, attended with other acts of grosser personal violence, your *labourers, or bigaris, not only willingly, uncompulsatively, travel* 100 *miles for the privilege of being employed by you* (*though even the bayonet cannot induce them to serve others*),

*but no punishment appears more effective to them than dismissal from your employment.**

'Now, I believe *the main secret of your management consists both in a humane and just demeanour to these poor creatures, whom, to your lasting honour, you appear to regard as fully entitled to every privilege common to human nature.* In paying them a just price for their labour, instead of forcing eight men to work for a Chinchuri rupee [about 22 pice, or 2¾d. each per diem], you allow them in the proportion of a rupee to six men, which, under a mild and equitable treatment, it is demonstrated *they will voluntarily work for, although nothing but armed men can compel them to labour on lower terms*' [and, of course, to starve].

'Of these latter rates my personal experience has afforded me ample scope for arriving at a correct opinion, and I have pleasure in stating that they are fully entitled to my cordial acquiescence and entire approval. I earnestly hope the salutary example you have thus afforded will not be lost on some older and more experienced heads, but lead them to regard the natives of India as something more than mere machines, formed to administer to our pleasure and convenience.

'I have the honour to be, etc.,
'J. H. PELLY,
'Collector and Magistrate.'

What a magnificent result, obtained by the simple increase of three farthings for a day's labour, a humane and just demeanour towards the people of a newly-acquired territory, and by considering them as entitled to every privilege common to human nature! The experience of the father who said, 'Go, my son, and see with what little wisdom the world is governed,' is far from being always just.

'My personal attendance was therefore indispensable. . . . I had to travel continually from one end to the other of this

* Happily these abuses of power ceased before the Victorian Age.—ED.

long and mountainous strip of territory at all seasons, and sometimes with great haste. I therefore very soon found, in addition to other impediments, that the public servants of Government knew nothing of the country or its resources; that we were at first absolutely at the mercy of the native civil, revenue, and magisterial officers, subordinate to the Collector and Magistrate, for everything. Our knowledge of the geography of the country was also limited to the verbal information of the guides and farmers, and the sketch maps by the late Major-General Reynolds, Surveyor-General, and Colonel Johnson, of the Engineers, Quartermaster-General of the Army. All the information that the Collector's and Judge's offices could afford me was always at my command, and, indeed, the same liberality was invariably extended to me by all the members of the Civil Service to whom I ever had occasion to apply; but the imperfection of our knowledge on all these matters was frequent subject of regret to us, and first set me on the idea of communicating my thoughts to the Hon. Mountstuart Elphinstone, on his first accession to the Bombay Government in 1819. They were most favourably received. . . . Every fresh occasion for promptitude in travelling, and despatch in the completion of the public works committed to me, led me to dwell more especially on the lamentable deficiency of our geographical knowledge, and I was persuaded by the late Brigadier-General Kennedy, then commanding officer of the division, to address him an official letter on the subject. . . . In the early part of our occupation of this newly-conquered country I had to travel about, and draw up reports, plans, and estimates, and it was some time before the Government had come to any decision as to the actual execution of these works. *Ad interim* I was occasionally lying on my oars, and while moving about from place to place, distant as they frequently were some 200 or 300 miles, I felt that time was slipping through my fingers, without anything to show for it. Moreover, it could not be expected that I should be

incessantly travelling on horseback day and night, and I knew no more profitable and creditable way of employing my time in these intervals than in acquiring a correct knowledge of the geography and resources of this unexplored territory.'

On October 20, 1820, he was charged with the duty of making the statistical survey of the Southern Konkan for the Civil Department, and a few weeks later rose to the rank of Lieutenant. The following year we find him temporarily ordered to very different duties, to which he alludes, so that we can quote his own words:

'In 1821 the British Government sent a force against the pirate tribes on the Arabian coast and in the Persian Gulf, with which Lieutenant (afterwards Colonel) Dickinson and I were detached from the Engineer corps. Some of these were distributed in considerable force and numbers in the southern provinces of Oman, at Beni bu Alí, which they had fortified, and thither, in reprisals of the entire destruction of a previous force under Captain Thompson—a whole regiment and all our officers but four—we repaired with about 4,000 men, artillery, etc., accompanied by the Imam of Muscat and his Beduín contingent. The battle fought, with considerable loss on both sides, the place taken, we counted, I think, 1,097 prisoners, the Imam insisting that all males above five years of age should be included in that number. I often looked with a pitying eye on the many poor little fellows congregated with the grown men, as I had occasion to go on the daily work of demolishing the mud and other defences where they were huddled together. They were separately disposed of in a fort at Súr, on the coast, and the elder prisoners handed over to the British Government, when they were shipped, with their chief, and forwarded to Bombay, and mostly died in the course of two or three years of small-pox, the few that remained being then restored to their loved free sandy deserts. We learnt that it was the intention of the Imam to make slaves of the boys. The feelings of indignation of

the European officers led to the resolution to present an earnest appeal to Sir Lionel Smith (the commanding officer of the expedition) for their being rescued and transferred to the care of kinder masters; and upon that the Imam granted that all not of true Beduín Arab race might have the option of our free service. We went into the fort of Súr, and, with the help of an interpreter, represented the object to them. Forty-nine were then allotted to different officers, Sir Lionel Smith taking charge of one poor little stripling. One who fell to my own lot—Shalum bin Alí, whose father and brother had fallen in battle—and another, a half-Beduín—who fell to my late dear brother, Captain John Jervis, of the Artillery—were baptized by Bishop Carr, and afterwards most carefully educated, and the former placed under the Rev. Mr. Fyvie, at Surat, where he soon became independent, married, and gained his own livelihood as a bookbinder. The other, unhappily, perished by a tiger, when on the march to Puná [Poonah]. Such are some of the feelings towards, and modes of treatment of, prisoners of war in Eastern countries. I ought to state that as far as came under my observation, and to my knowledge from the Rev. Mr. Fyvie, that both these lads conducted themselves as humble, consistent Christian characters.'

Thomas Best Jervis, after returning to Bombay, resumed his duties in the Konkan, which he described many years later in a letter. 'With an ardent temperament,' writes he, 'and a mind always unremittingly on the stretch in inquiries connected with my public duties and the statistics of the country, and a desire to bestow my best exertions to the service of Government . . . I had great and singular opportunities of traversing the country in every possible direction, to acquire a far more intimate and exact knowledge of the topography, physical character, and resources of the whole country than any other individual.

'I sent in several reports in connection with my statistical survey. That on weights and measures, in 1822 [furnished

to the Government through the intervention of Mr. Sparrow, Collector of the Southern Konkan Zillah], was honoured with the approbation of the Right Hon. the Governor in Council.'

Some notion of the nature of the statistical information he collected may be gathered from the following official letter to Lieutenant-Colonel J. Sutherland, Deputy Surveyor-General, Puná (Poonah).

'SHÍL,
'*November* 19, 1823.

'SIR,

'I have the honour to acquaint you that I have this day despatched to you a large parcel, containing in all 1,496 papers on statistical and revenue subjects, and a bundle of English papers. I have entrusted these papers to an intelligent Shástrí, a native highly learned in the Hindú laws, customs, etc., and the Sanskrit language, who is in my private service. *A* is a general specimen of the population tables . . . which will enable any person desirous of ascertaining the correctness of the same to do so with little trouble or inconvenience. These documents have been attested as coming nearly within the truth, as far as judgment could be passed on them, by the most respectable and oldest residents of the villages and towns. I beg most particularly to state that I have examined them with the greatest care and attention. I have left no means untried to ensure their accuracy, and have had recourse to every art which propriety and ingenuity could suggest, to render them worthy of confidence. The statistical papers *B* are on all subjects connected with the produce, circumstances, history, and extent, and other matters relating to the southern divisions of Malwan and Salsí. Specimens of these have now been translated and written out, to show their nature and value. The inquiries which I have instituted were made after a most careful and particular review of the manners, rights, and institutions of the people. A slight

view will show the immense trouble and attention which must have been bestowed on them, and I beg to state that there are many facts brought to light in them which will be well worth the consideration of the public authorities in this country, and *conduce greatly to ameliorate the condition of a people once sadly oppressed.* . . .

'I do not wish to produce anything hastily, or to build any arguments on incomplete grounds. The daily intercourse which I have with the natives, the facilities which are constantly afforded me to see narrowly into their private character, customs, and manners, will enable me to furnish in a short time such an account of them as will be most satisfactory to the Government, and *most essentially beneficial to the people themselves.*

'I have, etc.,
'T. B. JERVIS,
'Lieutenant, Engineers.'

On receipt of these documents from Lieutenant-Colonel Sutherland, the Secretary to Government replied to him as follows:

'BOMBAY CASTLE,
'*January* 29, 1824.

'SIR,

'I am directed to request you will express to Lieutenant Jervis the high approbation of the Hon. the Governor in Council of the zeal and diligence displayed by that officer in the preparation of the revenue and statistical papers accompanying his letter of November 19 last.

'I am, etc.,
'G. MORE,
'Acting Secretary.'

But to take up again the quotation interrupted by this correspondence:

'I likewise sent up to Government a very full and exact report of the state of education in the Konkan, and on the

system of education followed by the Mahometans and Hindús, with a very complete series of tables, twenty in all, exhibiting the number, character, etc., of the schools of the several districts in 1820 and 1824, contrasting the state of education after the lapse of five years that the country had been under British management with its condition when it first came into our possession. . . . With respect to the practical working of these principles, which I had so fully discussed in my report on education, I subjoin an extract from the official minutes of Government on the Southern Konkan School Society, founded by me with the co-operation of the natives. This *novel principle of getting the natives, a conquered people, completely wedded to their own systems of government and superstition, to go hand-in-hand with the British nation in their philanthropic schemes for the future amelioration of India will probably be recognised at no distant period as the surest and best way of governing the people of that great Empire*, and more especially in all matters in which demands of a pecuniary nature are to be made on them, or deep-rooted prejudices to be overcome.*

'This instance exemplified the practicability of overcoming a prejudice. I have since had other two opportunities of showing how the people of India may be brought to co-

* Extract of a minute by the Hon. M. Elphinstone, Governor of Bombay, dated June 16, 1824:

'With regard to the Southern Konkan School Society, the Governor in Council observes with particular pleasure the judicious means which have been adopted to procure the co-operation of the natives of the country in an undertaking which so much depends on their support. The Governor in Council conceives the institution highly honourable to the gentleman by whom it was founded, and to the respectable natives who have principally encouraged it, and he hopes that an example so well calculated to diffuse the benefit of education may meet with general imitation.

'The Governor in Council is pleased to sanction the issue of such of the books by the society at Bombay as may be necessary, at the public expense, and to authorize a donation of 1,000 rupees, and an annual subscription of 500 rupees to the same object.'

operate with us in improving the country, and voluntarily participating in the pecuniary burdens of the State. The natives, at my suggestion, and by my exertions and advice, came forward first in regard to the Colaba Causeway, to pay down 20,000 rupees towards the expense, and further to secure the Government against all possible charge by excess of estimate beyond the amount sanctioned by the Hon. Court, provided an experienced engineer officer were appointed to the superintendence of that work, and the work itself were executed by contract. In the second instance, when it had been judged by the Bench of Magistrates expedient to recommend the opening of a new gate in the fort of Bombay, or widening the others, as the only preventative to the serious accidents which continually occurred, and the most efficient remedy to the impediments which occurred in the ingress and egress of merchandise, the natives of Bombay, by my own personal exertion and with my advice, came forward and voluntarily deposited half the expense towards that undertaking—12,000 rupees. The money was paid over to the Government Treasury before I left, and the acknowledgments of Government were notified to me and to the parties who had so liberally concurred in my views. . . .

'The reports and memoranda relative to the salt manufacture on the coast, and the means of increasing the revenue thereby (one especially which was laid before Government under date March 7, 1823), were prepared and drawn up from materials collected by me. In reply to the Collector's letter, the Secretary to Government observes, under date March 25, 1823, "Were it not for the minute calculations into which you have entered, and the laudable attention which appears to have been bestowed in obtaining the fullest data to secure accuracy, the Governor in Council could not have believed it possible that salt could be manufactured at the very low price exhibited in that document. *So considerable an augmentation of the resources of this Presi-*

dency can be effected on the grounds of your memorandum, without enhancing the existing price of salt to the inhabitants, that the Governor in Council has no hesitation in authorizing you to adopt the most efficacious measures for increasing the manufacture of salt to the extent of 72,000,000 Surat maunds."

'The whole, indeed, of the most material propositions of the Collectors—Messrs. More, Dunlop, and Reid, successively—for the improvement of the revenue by the increase and better management of the salt works, from reports of their extent and formation, and of the process employed and the quantity of salt manufactured, were obtained from information collected by me. The proposition for the drainage of the alluvial lands at Pen, Wansí, and Rutnagírí originated wholly with me; the drainage of the morass also at Rerí. The very minute survey of the salt lands at Pen, Wansí, etc., was placed on record and delivered over to Government in June, 1830, with the various detailed reports and particulars respecting the proprietary rights of each party concerned in those works. . . .'

Younger geographers, scarcely realizing the scanty conceptions of Indian geography possessed by the Government of India seventy years ago, might well smile complacently. A glance at D'Anville's beautiful Atlas of the World, published about the time of the First Empire, would prove that India was about as well known to the Hon. East India Company at the date we are alluding to as Central Africa is now known to themselves. The coast had just been surveyed by the officers of the Indian navy for the purposes of navigation, and the position of cities in the interior been ascertained, together with that of the intermediate places connecting them, by means of itinerary maps; the river courses had been roughly sketched in; the Himaláyá Mountains—'the Roof of the World'—were barely known to exist otherwise than as a magnificent snowy barrier and great hnological boundary, afterwards to become the setting of

the most precious jewel in the crown of the greatest and most worthy Empress in the world's history. But none of the mountain heights had ever been visited, much less had a thought been devoted to the utility of measuring them. Not one of the beautiful valleys hidden in its mighty ribs, with all their gorgeous bespangled mantle of multi-coloured vegetation—Nature's own botanical gardens—had ever been trodden by the foot of any European. The very existence of most of them, with their teeming hives of inhabitants, speaking many entirely distinct tongues, was left to be unveiled by a future generation of explorers. The roads of India were no better than in the days of the great monarchs Asoka and Akbar—nay, perhaps in worse condition. Travelling, under the fierce rays of the tropical sun, through tiger-haunted jungles, marshes, and deserts, as well as across cultivated regions, was accomplished in palanquins or on horseback, and the very officials on duty had to move about with a whole retinue of attendants, in true Eastern fashion. With servants of, it may be, a dozen different castes, each with a religious objection to do anything but one particular kind of domestic work, to say nothing of the *hammáls*, or bearers, who carried the tents, baggage, and cooking utensils, travelling was no easy matter. Those unpleasant relics of misrule, and the oppression of the aboriginal tribes, then become wild—the consequence of the breaking-up of the great Hindú Empire—the Thugs and the Bhíls, necessitated the placing of an armed bodyguard by night round the lonely country bivouacs, for fear of being plundered. Only the new generation of officers and officials were learning to treat the mosaic of different native races with sympathy and affection, to promote their individual and collective welfare by the diffusion of education and the mild but firm exercise of strict justice. The overthrow of tyranny, and the gradual suppression by *moral* agencies of superstition and the practices of idolatry, and, above all, the raising of females from the debased condition of mere slaves, or things, to th

noble position for which they were created; the ignoring of caste, that appalling curse, which institution was nothing more or less than the application of the principle *Divide et impera*, which has resulted in there being now no Indian *nation*—these were the objects they set before themselves. By such a course they had the glory they never lived to realize, of laying the foundation of that marvellous Indian Empire, the educated natives of which have already learned to respect profoundly and honour their Empress-Queen, and who are among her most faithful and loyal subjects, having too vivid a recollection of their past sufferings under former despotic rulers, and their more unrelenting corrupt tools, ever to sigh for a return of their misrule.

The Hon. East India Company had wisely determined to make a proper map of the whole of British India on the scale of four miles to an inch, based on the astronomically accurate triangles of the arc of the meridian, commenced by Colonel Lambton in 1803, and continued by him until his death in 1823. During that period Lambton measured the arc of 9° 54′ from Cape Comorin northwards, and extended a network of triangles on the east of the meridian near the nineteenth parallel, as a lasting memorial of his scientific skill and his labours. This was the grand work which Major (afterwards Colonel) Everest was to continue for the next twenty years.

During the interval of time occupied in measuring the arc of the meridian, and in carrying out the work of mapping the country, the pick of the engineers of the East Indian army were assigned different portions, which they forthwith proceeded to triangulate, filling up the geographical and topographical surveys.

Lieutenant Jervis's wonderful powers of mind, and his scientific fitness for geodetic work, had by this time been fully recognised by his superior officers. For India was a great public school, where favouritism and interest were unknown, so that men of the first order had always been

turned out, who were an honour to their country. Not to speak of Colonel Arthur Wellesley (who was to become the Duke of Wellington), Sir Robert Grant, Generals Sir Henry Havelock and Sir Colin Campbell—all personally known to the subject of this memoir—and a host of others of like stamp, we may confine our attention to geographical and astronomical science alone, and include Rennell, Everest, and Thomas Best Jervis.

On January 25, 1823, Lieutenant Jervis was appointed to carry on the trigonometrical and topographical survey of the Southern Konkan for the Military Department. That long stretch of mountainous country, bounded on the east by the watershed line of the Peninsula, as marked by the chain of the Ghâts, with their precipitous approaches and deep gorges, extends westward to the Indian Ocean, south of Bombay, in all embracing an area of 13,250 sqŭare miles. This duty it was which was to mark his future career as a geographer, and he all along carried it out in conjunction with the quite independent and distinct statistical survey upon which he had been already engaged for twenty-seven months.

He records some particulars of this work :

'At the beginning of the year 1826 I delivered in the first portions of my Statistical Survey, and a map of the whole Konkan, compiled, as well as it could then be, in that early stage of the business, from such materials as I could procure, and with the aid of my own materials, to the south of Bankŭt fort.

'Having in 1829 submitted all the particulars of my services and claims to his Excellency the Commander-in-Chief, Lieutenant-General Sir Thomas Bradford, and the Hon. Mr. Romer, Sir Thomas Bradford, having early intelligence of the death of the Surveyor-General, Colonel Valentine Blacker, intimated to me his desire that I should address a public letter to him through his military secretary, requesting to be nominated Deputy Surveyor-General, in

succession to Captain Jopp, should that officer be promoted to the chief post. I did so accordingly, and am proud to attach a copy of his Excellency's letter to Government, as one among many proofs of his Excellency's friendly notice of my attention to the public service':

'*From Captain James Bonamy, Acting Military Secretary, to Charles Norris, Esq., Acting Chief Secretary to Government.*

'BOMBAY,
'*September* 11, 1829.

'SIR,

'I have the honour, by direction of the Commander-in-Chief, to hand up for the favourable consideration of the Hon. the Governor in Council, the accompanying application of Captain Jervis, of the Engineers, with his Excellency's warmest and most unqualified recommendation, should the transfer of Captain Jopp, as therein mentioned, allow of its being complied with.

'Captain Jervis was employed under the late General Mudge, from whom he has the highest testimonials, on the Grand Trigonometrical Survey of England in 1812, since which period he has spared no time, trouble, or cost, in furthering his professional knowledge; and having been for many years employed on the survey of this Presidency, his Excellency considers him to be the most qualified person who could possibly be selected for the situation to which he aspires.*

'A few months since the Commander-in-Chief had th[redacted] pleasure of bringing to the notice of the H[redacted] Governo[redacted] the survey of part of the Southern Ko[redacted] admirable specimen of the scientific labou[redacted] officer, and his Excellency now trusts t[redacted]

* 'A previous arrangement of the Gover[redacted] attainment of this distinction.'—Extract of [redacted] to Mr. Chief Secretary, dated Belgaum, M[redacted]

application will meet with that support which he conceives his science, zeal, and activity richly merit.'

At length he completed and delivered in the respective maps and memoir, to the recorded satisfaction of his superior officer and the Bombay Government, and was appointed to other duties on May 30, 1830, when the survey of the Konkan was abolished.

Of the enthusiastic spirit in which this work was carried on, some idea may be gathered from a communication made by Major (afterwards Lieutenant-Colonel) Pouget, who writes:

'Captain T. B. Jervis having been permitted by the Bombay Government to remain at Belgaum for the purpose of completing his maps and statistical survey of the Southern Konkan, I was at that period executive engineer of the Southern Division, and can most conscientiously bear witness to his indefatigable exertions in the pursuit of his work during the six months he remained on leave at Belgaum; and so far from its having been a period of relaxation from public duty, I am able, from personal observation, to state that the whole of his time, and that of six writers and draughtsmen, acting under his direction, *and at his own expense*, was exclusively and unremittingly devoted to his statistical work. No man could possibly have laboured more industriously to complete this great undertaking than he did.

'ROBERT POUGET,
'Major of Engineers, Bombay Presidency.'

Of C[redacted]ervis's map of the Southern Konkan, the [redacted] in his minute of June 10, 1831, says: [redacted]Government bear ample testimony of the [redacted]mployed in this valuable work. . . . I [redacted] it would be a matter of serious regret, [redacted]h, were this work to be lost to the

The Deputy Surveyor-General, Captain Jopp, in his reply to the requisition, concluded by observing, so far as the map was concerned :*

'The line of coast extending from Bankút to Deogurh, in the Malwan Talúka, a distance of nearly 120 miles, has, it is believed, been connected from the combined regular surveys of Captain Jervis and the late Lieutenant Robinson, of the Marine, and must be considered extremely valuable, as fixing with great accuracy the relative positions of all the principal places within that distance. I am uninformed to what other sources of information Captain Jervis has had access, but I beg leave to state that, although I do not consider that portion of the map from the Dumaon River to Bankút to be an addition to the information before possessed, yet the remainder, from Bankút to the southern extremity of the Konkan, contains much very valuable matter, not to be met with in any other map. Captain Jervis's arrangement of the materials shows them to have been good, and the general execution of the map is highly creditable to him.'

Strenuously engaged on this important work for ten years, his original sketches of the mountain survey were beautifully drawn with horizontal contour lines. His manuscript maps formed with these physical features, in addition to the horizontal information, still exist in the Government archives at Bombay, and testify to the conscientious manner in which the duty was performed, and were reduced in order to be embodied in the official Atlas of India on the scale of four miles to an inch. The entire river system had to be surveyed; the position of all the villages, and even almost all the towns, to be determined—nay, their very names, in the vast majority of cases, to be written

* 'The first skeleton and imperfect draft, intended to replace all former maps till an exact topographical survey could be completed; and it is to be remembered that it professed to be no more than a better map than had been ever yet produced of that portion of India.'—T. B. J.

down in European characters for the first time. No task could be conceived more analogous to the mapping of any part of Central Africa at the present day; the work was in great part exploration. Whoever will take the pains to examine the grand Atlas of India, which was engraved for the Hon. East India Company by their geographer, Mr. Walker, in London, will unhesitatingly agree that, of the difficult mountain regions surveyed up to that time by the officers of the Corps of Military Engineers of the Indian Army, none bear in a greater degree the inward evidence of minute, conscientious execution than those contained in sheets 25, 26, and part of 41, at the bottom margin of which the name of Captain T. B. Jervis is recorded as having been the surveyor.

CHAPTER III.

1829—1834.

THE EDUCATOR AND FRIEND OF INDIA—HE MEETS MISS ANNE SARAH PAGET AT THE GOVERNOR'S FAREWELL ENTERTAINMENT—THEIR MARRIAGE—BUILDS THE CHURCH AT BELGAUM.

'Beautiful is it to see and understand that no worth, known or unknown, can die, even in this earth. The work an unknown good man has done is like a vein of water flowing hidden underground, secretly making the ground green; it flows and flows forth as an invisible perennial well.'—CARLYLE.

TO understand what the state of Indian society was in former times would be difficult for any but those who lived there then, or have heard about it from those who did. There was but a sprinkling of Europeans in the midst of the teeming native population. Relatively few in number, the members of the military and civil services were chiefly recruited from successive generations of the same families, and, besides having drawn their first breath in India, passed their best days there, and learned to form a deep attachment to the natives, and appreciate all their nobler qualities. Exposed in India to a thousand hardships and perils and a most trying climate, constantly face to face with sudden death, it was nothing extraordinary for a man to be invited to dine at a friend's bungalow, and before the day came to receive a summons to attend his funeral. In most cases married to young

ladies who had gone out to India to join their relatives, there was a wonderful tie between all the members of the scattered British community throughout the same Presidency, especially the smaller ones of Bombay and Madras. Thus, the character of each individual, and of the ladies included, was thoroughly known to all, at whatever station they might present themselves. India was a touchstone to the new-comer, who, if he gave way to his lower instincts, or if he took to drinking strong bottled beer or spirits in excess, would be brought to the grave within six months' stay. Then, there were those who, adopting the native habits of life, yielded to the fascination of Eastern notions of lascivious gratification. The fundamental mistake, as Thomas Best Jervis used to say, was in their having been sent out to India too young, before their characters had been formed, in the unpardonable neglect of their parents in not attending to their best moral interests, and their having been cast thus suddenly, and unarmed, into the midst of fiery temptations. What could be expected otherwise? Moreover, Great Britain herself was passing through tempestuous times. But, then, there was a splendid phalanx of high-principled men who landed in India furnished with a budget of useful exhortations from their families, and who would be confirmed in the highest Christian principles they had been taught in their youth. Personal introduction was not considered necessary, and hence the most remarkable opportunities were offered for joint action in the prosecution of any great project; each one knew where to find kindred minds or hearts. On retiring, worn out, to Europe, to linger out their old age and die, they spoke of each other as 'brother officers,' and chose the still honoured designation of 'old Indians.' Their largeness of views struck everyone who came in contact with them, and was unsurpassed.

Already a noble band of Christians, military and civilians, joined with the missionaries in loudly protesting against the plan then still pursued of paying military honours and firing

salutes at pagan ceremonies and festivals. Lieutenant Jervis was of the number. But the Government trembled lest such a course should be the precursor of the loss of India, and only timidly gave in inch by inch, till they saw that their fears were absolutely groundless—nay, that such things were even hurtful to themselves. Add to this that military honours paid to idolatrous ceremonies, as was pointed out, were abhorrent alike to Mahometan, Jewish, Parsí, and Christian soldiers. The suppression of *satí* (suttee), the absolute freedom of each and all to exercise their worship with full liberty of conscience in their several ways, was advocated wherever it did not clash with morality or the penal law. Justice, integrity of dealing, generalized secular education for all, were shown to be indispensable, as well as the upholding with courageous fidelity the teachings of the Christian religion on the part of the British in India. Religious instruction, writes Lieutenant Jervis, is not the business of Government in its schools. 'In religious matters the Government of India cannot interfere; in education their interference must at best be very partial, as even such is often questionable, and of doubtful policy; but to suppress moral evils affecting the whole constitution of society, to resist the continuance of frauds, to inculcate integrity in public dealings, where the weight of such illicit burthens falls eventually on the people, is an office of sovereign justice, and worthy of your honourable Court to enter upon with all the power you possess.' The raising of the level of the native population was to be sought in a great measure by example. Mission schools were quite different. It was almost an anticipation by a generation of Cavour's memorable programme, 'Chiesa libera in Stato libero.'

We have seen how Thomas Best Jervis already warmly interested himself in conferring the benefits of instruction on the native population around him when but a Lieutenant. But what with the expense and the question of the supply of teachers, the difficulties in the way of realizing such an

ideal were formidable. Yet had not the missionary Carey offered himself to go out to India when the total sum collected by the nascent Baptist Missionary Society did not amount to £14? And Thomas Best Jervis likewise resolved to set to work by opening native schools. The Lancastrian system had been lately introduced with great success in the poorest parts of South London by its originator, in the face of the most unpromising circumstances. Lieutenant Jervis studied Lancaster's book, and adopted his plan of teaching, characterized by the employment of monitors, so as to multiply, as it were, the results obtainable by a single teacher, where the means were not forthcoming for employing more. At the same time he introduced a rational programme of useful acquirements, such as had never before been employed in Western India.

The existing schools of the natives were not interfered with, for he reported 'that it would be preferable to establish free schools, and leave the present ones entirely to themselves,' except supplying them with books. 'With the exception of public *peons* [police messengers], it does not appear that any inconvenience would attend the immediate and absolute restriction of public service to those only who can read and write correctly.' 'The diffusion of elementary instruction, sound morality, and useful European science, is easy and desirable, and while they assist and strengthen, they will shed a peculiar lustre over our Government.'

Some information regarding his labours in view of improving the education of the native troops of the Bombay army is gathered from an official letter he wrote on a much later occasion to Chief Secretary Norris:

'BELGAUM,
'*May* 21, 1835.

'In January, 1829, by desire of the Commander-in-Chief, Lieutenant-Colonel Sir Thomas Bradford, I drew up a code of instructions for teaching on the Lancastrian plan, for the use of the native army of this Presidency, which I further

translated, by his Excellency's orders, into Hindústání and Maráthi, and subsequently lithographed and printed 300 copies of each for distribution to the native army of this Presidency, by order of Government. . . . This code of instructions has ever since been, and is now actually, in use in every corps of the Bombay army, Sir Thomas Bradford having been pleased, on the representation of the American missionaries, to allow me to give a few copies to them.'

Colonel George Jervis, brother of the subject of this memoir, while Superintending Engineer at Bombay, founded the Native Engineering Institution, and likewise translated several educational books, including De Morgan's geometry, into Maráthi.

'In 1829 I was placed in charge of the Government Lithographic Establishment, the Educational Society, and Engineer Institution. The examination I held of this latter before the Judges of the Supreme Court, the Governor, and Commander-in-Chief, led the Government to confide to me (at a subsequent period) the future examination of those educated at that institution.'*

Taking charge of the Government lithographic press at the Presidency opened out to him another field of usefulness. Of the aptitude of the natives for higher instruction he had the greatest conviction, provided the most approved system were employed, the best materials, and professors of the highest order.

But, above all, it was well known to everybody, Europeans and natives alike, that he was an open upholder of Christian missions, and the stanch friend of the missionaries, while at the same time a sympathizing, genial friend of the natives, of whatsoever persuasion they might be. That any should degrade *themselves* by bowing down to stocks and stones

* In the English, Maráthi and Gujaráti languages. Sir John Malcolm was then Governor of Bombay.—ED.

was repugnant to him because of the loss the deluded devotees suffered by being deprived of their highest good; but proselytizing of whatsoever kind, in the absence of perfectly personal conviction, he repudiated and denounced.

Amid such multiform and fascinating pursuits Captain Jervis passed his younger years. Without a permanent roof under which to sleep when absent from the Presidency, except on rare occasions, he was ever on the move, and generally the only European in the place in which he found himself. He laid a broad foundation for extensive usefulness by familiarizing himself with languages—Hindústání, Maráthi, Gujarátí, Arabic, Persian, and other Eastern tongues; and he likewise studied Hebrew under his learned friend the Swedish missionary Fjelsted. We must bear in mind that in those days there were but few of the excellent grammars and dictionaries which, with the translation of the Scriptures into the many languages of India, by the noble and loving self-sacrifice of many devoted missionaries, have brought our modern administrators into closer touch with the natives. He had to train his own office, which virtually became a technical school. Excepting some young British officer, when he was fortunate enough to have one under his orders, as in the case of Lieutenant Alexander (afterwards Sir Alexander) Burnes, of Afghan fame, he often had to place a pencil for the first time in the hands of some bright native youth whom he had chosen in the locality, and had continued to teach, until he became capable of assisting in the details of the survey. Others he put to the task of writing out whole volumes of extracts from the best British, or even French, literary or scientific authors, for books were then difficult to procure in India—above all in out-stations. Thus, he likewise brought them contemporaneously to a thorough knowledge of the English tongue, while they learned to follow — it may almost be said to counterfeit — his own beautiful handwriting. In this manner did he set about the survey, and so drew out the

capabilities of his native assistants for the benefit of the Government. While the census was being taken by him on the one hand, he set others to keep the regular meteorological registers, which still exist, to attest the mathematical care taken, while the writing can scarcely be distinguished from that of an educated European.

Thomas Best Jervis, and a phalanx of like-minded men, were brimful of sympathy and genial affection for the natives of India, and these in their turn would go through fire and water for their English friends. After retiring to England, often would he expatiate on their noble traits of character; as an instance: 'On the trigonometrical survey,' he loved to say, 'I required signals to be placed by sunrise on different far-distant summits, often difficult of access, and gave my orders to my several people. On the appointed day I directed my theodolite towards the required spots, in *absolute certainty* that the flag would be hoisted at the appointed time and place. Such conscientious fidelity to orders puts to shame too many nominal Christians at home. Should I be able to count so implicitly on loving, unquestioning obedience on their part? The poor heathen give us an eloquent example of duty accomplished.'

On the eve of the departure of the Hon. Mountstuart Elphinstone, in 1827, a grand farewell entertainment was given at Government House, Bombay, Captain Jervis being among those present. On this occasion he met for the first time Miss Anne Sarah Paget, a young lady who had accompanied her widowed mother to India to rejoin two sisters married to officers of the Bombay army, after the death of her father, Dr. William Paget, a retired surgeon of the 48th Regiment.

Hitherto he had been quite alone, which ill suited his sociable disposition, but now a fresh impetus was to be given to his career of usefulness. Before consenting to the union he proposed, the young lady, who had been brought up by pious parents, carefully ascertained the character of

the officer who had presented himself, and although her mother fully approved of the projected marriage, her dutiful daughter would not consent to abandon her; but her mother dying in 1828, circumstances were altered.

The proposed union between Captain Jervis and Miss Paget was no impulsive step; its importance for life was duly pondered on both sides, and much preliminary understanding must certainly have formed the object of conversation, which can be amply proved by the following paper, drawn up by the young lady, forming a kind of preliminary contract, made a few weeks before their marriage. What untold misery would have been spared to many if newly-married pairs had previously subscribed such an agreement!

'As in all our ways we ought to acknowledge God, that He may direct our steps, so, in prospect of our proposed connection, which is of great moment, it is the duty of each of us to implore the Divine direction and beg the heavenly blessing, and in entering into it to keep the following things in view. I met with them in a religious work, and, as they struck me as very apt, I transcribe them with very little alteration:

'"AN AGREEMENT BETWEEN TWO PERSONS ON THE EVE OF MARRIAGE.

'" 1st. As we should neither eat nor drink for ourselves, so in our marriage we should have an eye to the glory of God, and study to live together as the heirs of the grace of life.

'" 2nd. As there is some difference in our views of certain things with regard to religion, instead of suffering that to produce discord or contention between us, or angry discussions, let it excite in us a proper concern for the souls of each other, that the Holy Spirit may be the guide of both of us.

'" 3rd. Let us expect troubles and trials while in the world, endeavour to bear them with patience, and seek to turn them into good.

'"4th. Let us take it for granted that each of us will find some failing to bear with in the other, and so resolve beforehand to behave wisely towards each other; never to be both angry at once; to hide one another's faults, and to forgive one another.

'"5th. Let us seek to esteem, respect, and comfort one another, and so to live in love.

'"6th. Let it be our joint and earnest prayer that the grace of God may be in our hearts, His peace rule there, and His blessing rest in our house.

'"7th. Let us depend on the providence of God, and bear in mind that it is only His favour which can make us happy with little or with much: for should He be provoked to send an evil spirit between us, we should be miserable, whatever we might possess.

'"8th. Let us never omit the worship of God and the reading of the Scriptures daily, deeming wrong whatsoever may interfere with this first duty.

'"9th. May we remember that this is not our rest, and not seek our heaven below, or expect to find felicity on earth, but rather welcome the trials which Heaven sees fit to send, and rejoice thereby that there remaineth a rest to the people of God.

'"10th. Let us remember that one of us may be snatched away by death before the other, and leave the survivor drowned in sorrow. Let this thought be sufficient to subdue any unkind feeling which may rise in the heart, and direct us to the necessity of ordering our walk aright, studying to have as much as possible our conversation in heaven, whence we look for our Saviour, who alone will enable us, when the trial comes, 'not to sorrow as those who have no hope.'"

'POLADPORE,
'*October* 19, 1830. 'A. S. PAGET.'

They were married on November 15, 1830, at the beautifully situated cantonment of Mahábleshwár, which

we may justly call the 'Indian Rigi,'* and, as might have been expected from what has been related above, their married life was a most happy one, strengthened by the ties of Christian harmony. They had two children, who survived them, a son and a daughter.

After describing some serious financial difficulties, solved favourably by the Government in paying him arrears due for past services, he writes from Belgaum to his brother-in-law, Major Pouget, on August 15, 1831:

'To desire too much, to expect that the course of life will always run smooth, is what the Christian never looks for. His prospects are always onward to a better country, where I hope sincerely you both, and we, and all whom we love, may, by God's mercy and blessing, eventually meet to part and suffer no more. No circumstances of place or time or earthly concern will then divide our affections or our intercourse, and to ensure this should be our daily and fervent prayer to our Almighty Redeemer.

'My Annie joins me in most affectionate regards to you both, and I remain,

'Your affectionate brother,

'T. B. JERVIS.'

In the year 1831 Captain Jervis discovered slate rocks at Kaludgí, near Belgaum, on the eastern slope of the Ghâts, and opened out a quarry, bringing the matter to the notice of the Bombay Government. The slate, which proved to be of excellent quality, was prepared for educational and

* 'The scenery around is the grandest, the most beautiful, and the most sublime, which I have yet witnessed during my earthly wanderings, extensive though they have been. The Mahábleshwár is part of the great Western Ghâts, and 4,700 feet above the level of the sea—a loftiness considerably surpassing the highest of Caledonia's mountains. The vegetation partakes of the magnificence of the tropics, but is enchanting to the dwellers in the climes of the sun, as in some respects resembling that of our beloved native land.'—Such is Dr. John Wilson's description of the glorious scene from Mahábleshwár.

architectural purposes, as will be seen by the following extract of a letter from Mrs. Jervis to her sister, Mrs. Pouget :

'BELGAUM,
'*March* 21, 1832.

'MY DEAREST BESSY,

'We received your letter and Pouget's, with the plan of the church, yesterday. Jervis is quite delighted that Pouget is so much pleased with his slate, and immediately determined to furnish him with a fine specimen of each description. Fortunately, he found a man who had been in the Nilgíris, and we have despatched him off this morning, together with another *bigarí*, with two parcels, one containing three large writing slabs of a fine, soft quality, two roofing slabs, hard and thin, and some hone-stones, or whet slates. The second contains slate pencils, both soft and hard, prepared and in their rough state. These last are in a small tin case, and some of them are so long and delicate that I would recommend Pouget to open them himself very carefully, as it would be a pity to get them broken. It was very kind of Pouget to show the slate to the great folks on the hills, and I think it only requires to be known to be valued. You will see Lord Clare's opinion on the subject, as we have enclosed copies of his letter and Jervis's by the same opportunity. The men have agreed to reach the hills in fifteen days from this, and about April 5 or 6 you may expect them.'

In his capacity of civil engineer Captain Jervis built the little church at Belgaum. 'The foundation of the church was laid,' writes he in his common-place book, 'in the presence of General Gilbert and his staff, and I placed the following inscription, with my own hand, on the south-east angle of the foundation : "In the name of the most Holy Trinity and Unity, the foundation-stone of this church, erected at the expense of the British Government, under the administration and patronage of the Right Hon. John, Earl of Clare,

the President and Council for the territories of Bombay, was laid on July 5, in the year of our Lord 1832, the Rev. Morgan Davis clerk, T. B. Jervis architect.' Then followed the texts—Revelation i. 17, 18, and xxii. 20. This church was roofed with the slate, and it is noteworthy as being the first instance of slate being employed in India for such a purpose, in substitution of heavy and unseemly tiles. Unfortunately the stone must have been obtained very superficially, and so have been much weathered. Further down it would be far more durable.

In drawing up his statistical survey, he was early drawn into the investigation of the values of the local weights and measures, and thence insensibly into the determination of the reduction of the weights and measures of various parts of India to a common standard. The result of these remarkable researches was printed in his 'Report on the Weights and Measures of the Konkan Province and the Territories subject to the Government of Bombay; together with a Comparative Analysis of their Quantities in respect to such as are at present, or were anciently, used throughout India;' printed at the American Mission Press, Bombay, 1829.

At a later date he writes:

'I have lately been in treaty with the Government of India to adopt the standard pointed out to them in my essay, printed in Calcutta (the length of the second's pendulum in latitude 45°). The Governments of Madras and Bombay have issued circular orders to the whole of the civil authorities throughout those Presidencies to furnish information and models of their provincial weights and measures, to be forwarded through your Hon. Court, and submitted to my examination. The Bengal Government had previously sent home information on the same subject. It will therefore remain for your Hon. Court to empower me to complete those suggestions, and with the associated labours of some of the Fellows of the Royal Society in this

country [England] to prepare a clear and practical statement of what should be done to secure to British India an equitable, uniform, and scientific scheme of weights and measures.

'As the Governments of India receive part of their revenues in kind, in many provinces in point of fact, though that is frequently commuted for money payments at bazaar rates, the operation of uncertain, fraudulent, and various weights and measures affects the aggregate revenue of India to an enormous amount. The same observation applies to the opium, salt, and tobacco produce. This extends likewise to the whole of the public dealings of the army, Commissariat, Engineer, and Naval Store Departments; but in no one branch of the public finances is it so essential as in the true standard of the currency, and all those intricate questions of exchange and commerce which are implicated in the public credit of the country. On the whole, a correct standard of coins, weights, and measures is the very foundation-stone of all security and right of property, and the actual state of the standard an excellent criterion of the looseness or stability of any Government.'

Not contented with preparing his 'Geographical and Statistical Memoir of the Konkan: the Revenue and Land Tenures of the Western Part of India, considered with reference to their first institution and present working,' originally inserted in the Journal of the Bombay Geographical Society for 1840, and afterwards printed in a separate form at the Baptist Mission Press at Calcutta, he further seized opportunities for drawing with the utmost precision the topographical and orographical features of the Southern Konkan, forming a portfolio of large pencil views, and also made portraits of the Hindús and wild aborigines of Western India, as ethnographical studies of a valuable kind, besides which he diligently studied the flora, and made lists of the indigenous species he met with, according to Wallich's Indian Botany.

Always alive to the importance of giving a scientific description of the country, later on he persuaded Mrs. Jervis to fill numerous albums with botanically correct drawings in water-colours of the wild-flowers, to illustrate the flora of the Konkan. Their execution is so tasteful and artistic that it is a great pity they should never yet have been published as a whole, now that chromo-lithography as a fine art rivals the productions of the brush.

On handing up copies of the survey, made for the third time, Mr. James Sutherland, member of Council, observed in his minute of January 12, 1835:

'I quite agree with the Right Hon. President in the panegyric passed on Captain Jervis's maps. These elaborate productions exhibit substantial proof of rare talent and science, unequalled by officers on so extensive a survey in this country, betokening an active and zealous mind in the discharge of duty that required great skill, patience, and time in the completion. I am of opinion, from what I have learned, that Captain Jervis has been much in the back-ground in point of remuneration.'

To this the Hon. Mr. Edward Ironsides adds, in his minute of January 13, 1835:

'I beg to record my full concurrence in all that is above expressed. The talent and zeal which Captain Jervis has invariably displayed in the discharge of his public duties require no eulogy. We have lately had an opportunity of judging how indefatigable and laborious his exertions must have been throughout the whole period he has been employed in the Konkan, and I should hope that such services may surely be considered deserving of reward.'

The Right Hon. Lord Clare, Governor of Bombay, in a minute dated January 19, 1835, observes:

'I concur in opinion with my civil colleagues in all they have stated in praise of Captain Jervis's talents and exertions.'

In May, 1835, Sir Robert Grant had succeeded Lord

Clare as Governor of Bombay, and in a minute dated September 14, 1835, he records:

'I am fully aware of his [Captain Jervis's] high character, his professional skill and talents, his eminent proficiency in the severer sciences, his powers of ingenious research and observation, his indefatigable industry, and his anxious devotion of these qualifications to the service of the public and of mankind. . . . He has dealt in disquisitions respecting the antiquities of the country, suggested rather by the active and excursive character of his own mind, than dictated by the official duties entrusted to him. I do not mean that such inquiries have therefore no practical utility. Even a cursory glance at the memoir which he has now placed in the hands of Government led me to a passage which throws light on a question how far Míras lands are saleable—a question which has of late come repeatedly under the consideration of Government. His very original speculations on the primitive standard of weights and measures have also an immediately practical tendency. Nor is it to be forgotten that *all his disquisitions are made to lead to the practical end of inculcating liberal and paternal principles of government.*'

To the Court of Directors of the East India Company, in London, T. B. Jervis wrote on January 2, 1837, a retrospective statement relating to circumstances which occurred while he was engaged on the survey of the Southern Konkan:

'I have recently been instrumental in the reformation of a serious abuse which has arisen out of the intercourse of Europeans with Asiatics, and which, under the title of *Dustúri*, perquisites, fines, customary percentage, *Dullali*, and so forth, has entailed an enormous charge on the British Government, without any plea or show of justice. As far as it could be ascertained on inquiry, the *Dustúri* amounts to about one-fourth of the expenditure of the commissariat, etc. . . . the Customs Department, however, showed perhaps most abuses. . . . The sense of the

Right Hon. the Governor in Council on this great question was evinced in a striking manner by his authorizing me to nominate all the members of the committee from among the members of the Civil Services generally, to inquire into and bring it before Government and your Hon. Court, reserving to himself the right of appointing two only. He authorized me to give the committee instructions, *and entered, as his own minute, all my suggestions as to the course to be pursued, and the measures to be enforced for the removal of this evil.* If so much could be effected in one office, what might not be anticipated, as Sir Robert Grant observed, in all the public offices? . . . *But the moral working of the reformation of this long-standing abuse is of far greater consequence than all these savings.* . . . To suppress moral evils affecting the whole constitution of society, to resist the continuance of frauds, to inculcate integrity in public dealings, where the weight of such illicit burthens falls eventually on the people, is an office of sovereign justice, and worthy of your Hon. Court to enter upon with all the power you possess. Should your Hon. Court be pleased to follow up the first suggestions on this subject, which have been most warmly espoused by Sir Robert Grant and the Bombay Government, I feel confident that, not only will a great and almost incredible saving be effected in the general expenditure of India, but that more will be done by this means to improve the moral feeling of India than has been accomplished by any other method of schooling. All that is required in order to effect this desirable reformation is authority, patience, firmness, and fearless impartiality.'

Captain Jervis was one of the band of officers who, deeply concerned about the sad, unprovided lot of widows and orphans, about seventy years ago initiated the Bombay Military Fund, afterwards so admirably administered by the Bombay Government, and which also provides pensions for retired officers.

Before leaving India, Captain Jervis published for the use of the Government an elaborate study on Indian metrology, entitled 'The Expediency and Facility of Establishing the Metrological and Monetary Systems throughout India on a Permanent Basis; grounded on an Analytical Review of the Weights, Measures, and Coins of India, and their Relative Quantities, with respect to such as subsist at present, or have hitherto subsisted in all Past Ages throughout the World. In connection with which the Measures of Time, or Elementary Principles of Technical Chronology of Eastern Nations, are investigated and explained, and now, for the First Time, referred to their Proper Originals.' It was printed at the American Mission Press, at Bombay, in 1836.

He likewise wrote a work in which he thought he could sustain the thesis that all weights and measures were originally derived from the same standard, which he considered to have been the mean length of the pendulum vibrating seconds at 45° lat., and which only differs by a very small fraction from the length of the metre. The title of this book is 'Records of Ancient Science, exemplified and authenticated in the Primitive Universal Standard of Weights and Measures, communicated in an essay transmitted to Captain Henry Kater, Vice-President of the Royal Society.' Calcutta: Printed at the Baptist Mission Press, 1835. Of late years Professor Petrie has measured the Pyramids of Egypt trigonometrically with mathematical precision, slightly modifying the dimensions given by Jomard, at the time of Napoleon's expedition to Egypt, the data upon which Captain Jervis based his arguments. Professor Petrie assigns an inch less to the length of the ancient Egyptian cubit, which thus comes out shorter than the cubit measures of many parts of India. Consequently *part* of the deductions drawn falls before more accurate explorations, though a considerable part bears such a test. Even now the last word has not been said on this very abstruse investigation.

CHAPTER IV.

1836—1854.

CAPTAIN JERVIS RETURNS TO ENGLAND ON FURLOUGH—ELECTED F.R.S.—LIFE AMONG THE SCIENTIFIC MEN OF THE DAY—RETURNS TO INDIA—RETIRES FROM THE SERVICE WITHOUT TAKING UP THE APPOINTMENT OF SURVEYOR-GENERAL OF INDIA — HOME IN ENGLAND — DEVOTES HIMSELF TO THE ADVANCEMENT OF ASIATIC GEOGRAPHY AND THE EDUCATION OF THE NATIVES OF INDIA.

'This is true liberty, when free-born men,
Having to advise the public, may speak free;
Which he who can, and will, deserves high praise;
Who neither can nor will may hold his peace:
What can be juster in a state than this?'

EURIPIDES, *translation by* MILTON.

JULES VERNE thought it necessary to allow Felix Fogg eighty days to travel round the world. Now that would no longer astonish a commercial traveller, but sixty years ago it was quite another thing, and the Hon. East India Company could only grant a single leave of absence to its civil and military officials during their entire career, in order to enable them, after about twenty years' service, to revisit their families and friends in Europe, and lay in a fresh stock of health, so compromised by hardships endured under the fierce rays of a tropical sun. Captain Jervis obtained his furlough in 1836, and took his passage with Mrs. Jervis, his two children, and a

native *áyá*, on board the *Buckinghamshire*, East Indiaman, originally a frigate, of the 'tub' type, which was burned at sea some years later. A violent storm obliged the captain to put in at Simon's Bay, and the passengers had the opportunity of going by land to Cape Town, and remaining there until the ship could go round, ten days later. In a book he bought at the Cape, Captain Jervis recorded the fact of his staying at the same boarding-house as Captain Havelock, the future hero of Lucknow, and it is greatly to be regretted that nothing can be here given of the intercourse of these two so genial spirits. As long as he lived he would recount the unbounded delight he felt in rambling among the magnificent wild-flowers of Southern Africa. Six months to a day after leaving Bombay the *Buckinghamshire* cast anchor in Portsmouth Harbour.

After renewing the acquaintance of his relatives and going to see those of Mrs. Jervis, he went up to London, and devoted his time with the utmost earnestness to bringing his scientific knowledge up to date. He had already been elected Fellow of the Royal Society in consideration of his work on weights and measures, which he had submitted to them through Captain Kater, and he was soon afterwards elected Fellow of the Royal Astronomical, the Royal Geographical, the Geological, the Royal Asiatic, and other learned societies, where he came into close acquaintance and intimacy with the most eminent scientific men of the day, including Sir John Herschel, South, Faraday, Wheatstone, Sabine, Colby, Greenough, Beaufort, Ross, Washington, Lyall, De la Bêche, Portlock, Lloyd, Babbage, H.R.H. the Duke of Sussex, President of the Royal Society, and many others.

In recognition of the unremitting ardour and enthusiasm with which he was fired, and all these self-imposed exertions, Thomas Best Jervis could no longer be kept in the background. Indeed, the Government of Bombay had already transmitted to Leadenhall Street, the seat of the old

India House, the highest testimonials of his scientific abilities and his personal worth, and at the recommendation of the first scientific men of the time, Fellows of the Royal Society, on September 9, 1837, the Court of Directors of the Hon. East India Company, to whom he had now become personally known, appointed him provisionally Surveyor-General of India, to succeed on the retirement of Major (afterwards Colonel) Everest, at that period at the apogee of his fame, though so physically broken down by ill-health that it was considered likely to necessitate his leaving India. He now untiringly directed his whole energies to the different branches of science which could in any way bear upon the main object of his aspirations—the grand topographical survey of India, and the triangulation to follow on Lambton's and Everest's measurement of the arc of the meridian. For this purpose he entered the astronomical observatory of Sir James South, on Camden Hill, Kensington—long since pulled down to make room for rows of new houses—passing whole nights in observations of the stars, until a violent attack of influenza cut short the work. At the same period he perfected his knowledge of the highest branches of mathematical science under the able direction of his amiable and clear-headed friend, Mr. John Le Cappelain, actuary of the Albion Life Assurance Company. His great aim was to study the best means of making a survey of India on the scale of one inch to a mile, with plans of the chief cities. In accordance with the instructions received from the India House, he also proceeded to Dublin, there to familiarize himself with every working detail of the beautifully organized Ordnance Survey of Ireland, under the direction of Colonel Colby, R.E., returning with a high conception of the suitability of the system for India, as regarded the distribution of duties. Of this more will be described elsewhere.

Returning to India in 1839, he travelled overland by way of Havre, Paris, and Marseilles. While in the French

capital he made a point of examining with minute care the organization of the Dépôt de la Guerre map department, and was welcomed with true French courtesy and generosity by the Director, General Pelet. Here he also came into friendly intercourse with Biot, Milne Edwards, D'Avezac, and others, as he also did with Amici at Florence, whence he proceeded, viâ Naples and Malta, to Alexandria. At that time Lieutenant Waghorn had organized a passenger service on the Nile up to Cairo, and from thence to Suez across the desert in a sort of omnibus or van (differing the least possible from the type of Pharaoh's vehicles submerged in a neighbouring part of the Red Sea). Primitive as doubtless was this means of transit of the African desert, Waghorn's name deserves an honourable mention, as having diverted the too circuitous current of commerce between Europe and India round the Cape; Waghorn established the route which Lesseps perfected by his magnificent canal. Steam communication was already established between Suez and Bombay.

He did much to promote the study of Asiatic geography at this time, and he was instrumental in enriching the library of the Royal Geographical Society by procuring for it the gift of a copy of the best official publications on India, and obtained new correspondents for the Society in India, by the distribution of their Journal among the principal libraries in the different towns.

While in Bombay, as civil engineer he designed and superintended the erection of the Missionary Institution of the General Assembly of the Church of Scotland, destined for the higher education of the natives. A particular account of this building will be read with interest in his correspondence with the missionaries. Both in Calcutta, where he made the personal friendship of the Rev. Dr. Duff, and in Bombay, where he renewed his old intimacy with the Rev. Dr. John Wilson, and others, and first met the Rev. J. Murray Michell (since LL.D.), lately arrived in India

from Scotland, he evinced an untiring and much-appreciated interest in the work of the Christian missions belonging to different Protestant bodies, visiting the schools, examining the pupils, and addressing the public at a meeting of the Bombay branch of the Bible Society, in furtherance of the diffusion of the Scriptures among the natives. This was all the more significant, as was but lately observed by an old missionary who was present at the meeting, since he was staying at the time at Parell, the Government House, and it was known that the Governor was not particularly favourable to missions.

Colonel Everest did not retire, as it had been anticipated he would do, till several years later. After remaining in India a little over two years, and for purely private reasons, viz., his anxiety to himself superintend the education of his children, as is clearly shown in his correspondence with his family, Major Jervis did not wait to take up the appointment of Surveyor-General. Before leaving Calcutta he wrote to a friend in England on the subject of his determination in nobly touching language, which claims lasting gratitude on the part of his children: 'I think I now see my way clearly, and am quite willing to believe that an arrangement which brings me into a less extensive sphere of usefulness, and permits of my directing the education of my children on religious principles, will be far better for me and them than any which can ensue in the largest acquisition of wealth or distinction.' Returning to Bombay, he tendered his resignation, retiring from the service at the close of the year 1841, and returned to England viâ Suez, Alexandria, Gibraltar and Southampton.*

* The writer would here record his emphatic protest, in the name of offended justice, against the absolutely false slur gratuitously cast on Major Jervis, in connection with his retirement from India, in an official history of the survey of India. He can only suppose that the able author was not in possession of the full facts of the case, or he would never have made such statements.

Retirement from India was not the result of a desire to rest from active labour for the benefit of his fellow-creatures. Scarcely had he put his foot on British soil than he joined his family at Torquay, and set to work, as he had proposed to himself while still in India, to superintend the education of his children. We must, however, record the sentiments he had towards the natives of India, as expressed somewhat later:

'They are, perhaps,' he writes, 'the most docile, tractable, and sharp-sighted people in the world; they are, therefore, peculiarly disposed to religion, open to any superstitious fraud, but slower to apprehend a deep and consequential truth. They are quick to acquire and discuss all knowledge, but have little originality or depth of thought. They are brave and patient in the face of evils and trials, which the European nations succumb to; but timid in lesser dangers, which the latter smile at. They are faithful to a fault, accessible to counsel, order, and any degree of discipline, by proper management and consideration, but may be roused to the most bitter and vindictive feelings, or turned aside by example, and negligence, and perverseness, to the lowest state of degradation and wickedness. This great and very intelligent people is now under the sceptre of a gracious and powerful Queen, who loves all her subjects, and will find these amongst the most faithful and useful on any emergency, in the exercise of her sovereign wisdom; though rash experiments on our part might alienate and sever that union for ever' ('India in Relation to Great Britain').

In 1843 we find him taking an active part in the suppression of a cowardly custom of the Middle Ages which still existed in the British Empire, by his joining the Association for the Discouragement of Duelling. Of the innumerable evils removed, and the inestimable legislative blessings ushered in, during the glorious sixty years' reign of Queen Victoria, how many risk being wholly overlooked!

At the period of the accession of her Majesty the criminal habit of duelling was still practised, but in 1842 an Association for the Discouragement of Duelling was formed in London, and the first report contains the following regulation: 'That the members of the association, under the fullest conviction that the practice of duelling is both sinful and irrational, and alike contrary to the laws of God and man, desire, in dependence on the Divine blessing, to discountenance by their influence and example, and by such other means as may appear advisable, the continuance of a practice so dishonourable to God, so fraught with evil to mankind, and so wholly incompatible with the enlightened and responsible state of a nation professing Christianity.' A memorial to her Majesty, pointing out and deploring the numberless evils which arise from duelling, and praying her Majesty would be pleased to take the subject into her royal consideration, was discussed and unanimously adopted by the Association, and presented through Sir James Graham, Secretary of State for the Home Department.

It is a matter of gratification to find that the Association was regarded with favour by the Government. Sir Robert Peel said in Parliament: 'I rely much less upon legislation than I do upon public opinion—than I do, for example, upon the influence of 360 gentlemen, including admirals, general officers, and other eminent persons, possessing the highest sense of honour, who have denounced the principles and practice of duelling, who declared that challenges should neither be given nor accepted.' Sir Henry Hardinge, the Secretary of State for War, announced to the House of Commons the important intelligence that her Majesty had expressed herself 'most desirous of devising some expedient by which the barbarous custom of duelling should be as much as possible discouraged; that to aid in accomplishing so desirable an object her Majesty had authorized an amendment of the Articles of War, which would probably bring about a more rational mode of settling disputes among

honourable men.' The report of the Association contains a list of 453 members, half of whom were distinguished officers of the army and navy, and among the number we find the name of Major T. B. Jervis, side by side with those of Colonel Sabine, Captain Edward Parry, James Cosmo Melvill, the Earl of Shaftesbury (then Lord Ashley), and other great men. But happily the Association became useless, for duelling ceased to exist on British soil, the practice being declared in 1844 'a violation of her Majesty's orders, and a flagrant breach of the law of the land.'

But to lay himself out with renewed ardour for the good of India, a land whose best welfare was nearest his heart, he found it necessary to fix his residence in London. Constantly in correspondence with the Court of Directors of the Hon. East India Company, or personally at the India House in the City, he laid before them the most important views—geography and the education of the natives of India being, as usual, his most favourite themes. His magnificent collection of the best maps and atlases, and the topographical surveys of various countries, together with a choice geographical, mathematical, and scientific library, including many exceedingly rare works in different languages descriptive of Asiatic countries, were placed on the top floor of the house he purchased in the Avenue Road, Regent's Park, while a lithographic press was set up in the basement, with all the requisites for printing under his own eyes. Here several maps, beautifully lithographed under his direction, were printed, as also a variety of administrative forms for the Bombay Government were engraved, all characterized by that accuracy and taste which marked everything he turned out, and not for a moment to be compared with the forms in ordinary type they were intended to supersede.

In those days it was customary in India to make payments in silver rupees, very rarely in gold coin, and enormous sums were carried backwards and forwards from one town to another, or to and from the Presidencies.

This time-honoured system was fruitful of murder, and the yearly sacrifice of human life was incalculably great, to say nothing of the immense risk of receiving payment for produce and merchandise. With such chances of plunder of specie, travelling was rendered unsafe to all engaged in trade, and no one had a better opportunity than Major Jervis of seeing what an incentive this was to crime, as he pointed out to the Court of Directors in 1844, when he devised a lithographed form of post-office money order for India, which he submitted for their inspection, with an earnest appeal for its introduction into their territories, on the ground of public safety and humanity. Post-office orders were still a novelty at home, and probably they had not yet been introduced into any other country. The proposition, with the form, was also submitted to the Governor-General of India, General Sir H. Hardinge, but was not then carried into effect, though it is well known that the post-office order system has long ago been generally adopted in India, the native population eagerly taking advantage of it. Transmission of specie by them is but a fading reminiscence of days of yore to the older inhabitants; the roads of India are now as safe as those in any part of the continent of Europe; murder in one of its worst forms has become a thing of the past.

A few years later he proposed to the British Government, in a letter to Earl Grey, the introduction of post-office orders in the several British colonies, as well as the Presidential towns of India, for transmission of money to the United Kingdom, the desirability of which would be a hundredfold greater now than then, and would constitute one of the crowning improvements of the postal service during the Victorian era.

Major Jervis's attention was engrossed at this time in a grand project for editing a series of valuable publications on the geography and statistics of Asia, translated from various languages, and containing the most important records

of travellers to new regions. The first and only volume which appeared was Baron Karl Hügel's 'Travels in Kashmir and the Punjab,' from the German. He repeatedly revised the proofs with scrupulous care, until finally the book lost every trace of its origin as a translation, and by the elegance and ease of its diction could never be supposed to be anything but an original work. His own footnotes are particularly interesting. Several other volumes were prepared, but were never printed.

Having obtained through Lord Aberdeen a copy of the very rare Chinese plan of the city of Peking, which had been transmitted from Sir Woodbine Parish, at Naples, he published a lithographed facsimile in four large sheets, coloured, Mr. Birch, of the British Museum, aiding in translating the names into English. The whole of the original Chinese wording was likewise reproduced, and Mr. Davis, Envoy to China, pronounced it to be the finest specimen of Chinese writing he had ever seen out of the country, quite equal to the production of a native. Nor was this the only thing he issued; maps of Bokhara, of the Island of Bombay, from the survey of Captain Tate, and that of the Duskroí Pergunnah, on the scale of an inch to a mile, the first of such Indian revenue surveys ever published, were executed at his press; but everything was rigorously confined to Asia, and he repeatedly declared that his sole object in view was the promotion of geography and education, and that he was by no manner of means engaged in a pecuniary speculation.

Submitting these publications to her Most Gracious Majesty, Queen Victoria, in a personal audience, she was so much interested with them that she was pleased to authorize Major Jervis to dedicate them to her, as also whatsoever he might subsequently publish. His Royal Highness Prince Albert likewise showed the most lively interest in them, and headed the list of subscribers to all his geographical publications, including such as were in view. Long and intimate were the interviews Major Jervis

had at Buckingham Palace with that great and good Prince, on whose intellectual culture he was always delighted to expatiate, telling how the Prince spread out the maps on the carpet, and familiarly sat on the ground the better to examine them, or at another time conversed with him in the friendliest manner about a German University.

In 1845 Dr. John Wilson paid a visit to Britain, and, in passing through London on his way to Edinburgh, it was but natural that he should accept the warm invitation he received to stay in the house of his dearest friend, and talk over with him many questions relating to the good of India. In a letter to the Rev. Robert Nesbit, missionary at Bombay, dated March 6, 1845, he writes:

'I came up to London last week to sign the statutes of the Royal Society, of which a short time ago I was elected a member. . . . I am with Jervis, who is doing great and good things for the East. Yesterday morning he forwarded to Prince Albert, without my knowledge, my proof of the raised map of Palestine. The Prince himself laid it before the Queen, who was much pleased with it, and ordered her private secretary to inform us that her Majesty will graciously accept the dedication of the map.'

This was one of the earliest raised maps ever made, and was published by Messrs. Dobbs and Bailey, Dr. Wilson contributing illustrative notes inserted on the face of it.*

At this period he still found time to prepare some discursive lectures on physical geography, delivered before the United Service Institution in Whitehall Yard, as also a beautiful course of lectures on astronomy given to a select audience in his own drawing-room, the whole original and elevated, well worthy of having been printed; besides lectures on astronomy at the Crosby Hall, in the City, and the Literary Institution in Edward Street, Portman Square.

* In the 'Life of John Wilson, D.D., for Fifty Years Philanthropist and Scholar in the East,' by Dr. George Smith (London, 1878), frequent allusions are made to his brotherly connection with Thomas Best Jervis.

The careful and first-rate execution of the numerous diagrams employed was notable.

The French proverb truly says: 'L'homme propose, mais Dieu dispose.' It may be easily imagined that all this production would cost a considerable outlay of money, and Major Jervis had retired from the service without having made a fortune. His little capital was expended, and he could not pass over the dead point; while, on the other hand, the British public of fifty-years ago were not yet ripe for generally appreciating geographical works or correct maps, as happily they now are. It is the vanguard which suffers the severest loss. So, with heavy heart, Major Jervis had to sell his press, a large part of his library, his very house itself, for what they would realize, to cease from all publication, and assume for several years the attitude of 'attention.' He had entered upon this undertaking from a purely patriotic feeling and for the land of his birth, and, as he has left ample record in his correspondence, in order to further the cause of Christian missions in India. Of lofty aristocratic nature, he conceived that it would have been absolutely out of keeping with his social position as an officer of the army, the descendant of an ancient family, and of gentle birth, to gain anything by his labours outside his pension, even pushing this feeling to extremes—not an unusual course in those times. On the other hand, he considered that the proceeds would quite cover the costs, which was not the case. To see himself obliged to relinquish all this undertaking was, therefore, a pang to his noble heart, which long oppressed his spirits. In general the world reserves its honour and regard for those who are successful. We think this is taking far too low an estimate of things. Merit seems rather to attach to the noble efforts intelligently put forth to achieve great and useful ends, irrespective of the results. Who would deny due honours to the noble band of self-sacrificing Arctic discoverers, though none has yet reached the pole?

He now passed a short time in visiting Normandy with his family, in search of health, and for the education of his children, then going to Paris. While at Caen a sad accident befell him, which he describes in a letter to his brother in 1846:

'I am rather sick from an over-dose, or a wrong dose, of blue pill, administered to me in Normandy last year by Napoleon's favourite apothecary. My friends—Dr. Paris and Dr. Chapman—suppose it was badly prepared, and contained a small quantity of corrosive sublimate, which has damaged the coats of my *iron* stomach.'

This untoward circumstance marked the point of decline of his health, and he seems never to have perfectly got over the serious injury thus inflicted on him. His learned friend, Dr. Paris, President of the College of Physicians in London, had prescribed blue pills for him, as he had suffered greatly from liver complaint, that terrible scourge so general to those who pass their lives in India, exposed to all the extremes of temperature to which British soldiers are subjected. Chemical science admits of strange and dangerous ambiguity in the nomenclature attached to the salts of mercury; for while calomel is considered by British scientists to be the chloride of mercury, and corrosive sublimate the perchloride, in the French treatises on chemistry and pharmacy the former is termed a subchloride of mercury, and the latter the chloride. It would appear that such a difference was not familiar to the party in France who made up the blue pills from Dr. Paris's prescription—though he ought to have known better than to have employed a poison so virulent. However the fact may have been, the consequences were irreparable, and a precious existence was condemned to prolonged suffering.

In the midst of various pursuits, he never lost sight of geographical and topographical claims, wherever they concerned the welfare of his fellow-men. Settling in Clifton in 1847, he early put himself in communication with the Health of Towns Parliamentary Committee, including the

great Earl of Shaftesbury (then Lord Ashley), with whom he had to do, strenuously advocating the execution of an accurate survey of Bristol and Clifton on the scale of six inches to a mile ; and, to add weight to the recommendation, he himself made a trigonometrical survey of the greater part of the city and suburbs, instructing several young men in the profession, and employing costly instruments of the most accurate description. He had the Clifton part of the survey filled in with chain work, a considerable portion of which was plotted on a large scale, but never completed or printed. The effectuation of such a grand project, to which he devoted much attention and time, was not as yet appreciated by the public, who either remained indifferent or stood aghast at the idea of the expense. Moreover, it clashed directly with the great personal interests of several citizens, and thus the six-inch survey of Bristol received no support, although it was made at that very time for many towns in the North of England, and has long ago been found to be a prudential measure of incalculable importance.

With this he advocated the firing of a mid-day gun from the summit of Brandon Hill, the site of a fort during the days of the Civil Wars, and commanding a magnificent panorama of this busy hive of humanity, in order to regulate astronomically all the clocks in the city. The electric regulation of clocks, not dreamt of at that period, has far superseded such a device.

We must now follow him in his more intimate occupations since his retirement from India. In the midst of many preoccupations, the education of his children was ever his first care. Keeping up his connection with other retired old Indians at home, he kept up an active correspondence with the missionaries in Bombay and Calcutta, working with them in their educational measures, and interesting those around him in their work. In the daily family worship the 'dear missionaries' were ever remembered heartily in his prayers.

At the period of the so termed disruption of the National Church of Scotland, the entire body of their missionaries joined the Free Church then instituted, renouncing, in common with a large body of ministers, all State connection and salaries. Major and Mrs. Jervis were full of sympathy and encouragement to the missionaries, approving entirely of the step they had taken.

Possibly this event, together with the innovations of the nascent Puseyite party in the Church of England, may have had much weight in the institution of the Evangelical Alliance in 1846, the members of which strove to do away with the mutual antagonism too common between the various sections of the Church of Christ, and so baneful to the spread of vital Christianity, in the face of dead formalism and Romanising. Thomas Best Jervis early joined the Evangelical Alliance, by which he merely manifested the course he had always previously pursued in India of having a brotherly affection for all those who followed the Saviour as their Head, not troubling himself with dogmatic or administrative differences, the importance given to which is generally exaggerated most unwisely. A ticket of his membership of the Bristol Branch of the Evangelical Alliance, dated 1849, is still preserved, and at the same period he frequently attended the earnest ministry of George Müller at Bethesda Chapel, Brandon Hill, though he did not agree with all his views.

Through the kindness of a Dutch friend, while staying for some time in Brussels, in the year 1851 he had the loan of what was then extremely rare, a copy of Siebold's great map of Japan. It must be remembered that, since the Japanese had expelled the Jesuits, on account of their shameless behaviour, they absolutely closed their ports to the commerce of all European nations excepting the Dutch, who, disclaiming any community of dealings with the Jesuits, obtained permission to introduce their manufactures into the privileged port of Nagasaki. The jealousy of the Dutch

in keeping Great Britain from any acquaintance with Siebold's map may easily be understood. Foreseeing the incalculable importance from a commercial point of view of a better geographical acquaintance with the land of the 'English of the East,' he would fain have popularized this map on a sufficient scale, after laying down the coast on his own cycloidal projection. The temptation was a powerful one, and he could only forego putting the plan in execution from want of the pecuniary means.

The following lines, written by Thomas Best Jervis in India, in 1835, are very characteristic of his state of mind. They are a comment on Psalm xlii. 11:

ENCOURAGEMENT TO SEEK CHRIST.

Dear Soul, why thus disquieted,
A prey to doubt, despair, and dread?
What pow'r, what merit, e'er so great,
The guilt of sin could expiate,
But His who died on Calvary—
Who wept and pray'd in sad Gethsemane?

Were Christ thy hope, were God thy fear,
These dark'ning clouds would disappear;
Despair would yield to gratitude:
No anxious thought thenceforth obtrude;
But joy, and peace, and righteousness
Thy change declare, thy faith and trust express.

Ay, once upon the cross was nail'd
Death's grievous curse, by sin entail'd
On man denounc'd—'twas then repeal'd,
Man's promis'd Saviour stands reveal'd.
Mercy and Truth in Him unite
To consecrate God's justice infinite.

Such Christ the Shepherd, Christ the Lamb,
Off'ring or offer'd, still the same;
Christ loves to hear us when we pray,
To soothe our griefs, our fears t' allay;
Our life, the truth, the way, our plea,
This is that Zoar whither all may flee.

Let naught detain thee; hither come,
His grace thy strength, His arms thy home;
For us that righteous blood was shed,
For us that sinless spirit fled
Through death's domains to realms above,
To consummate His everlasting love!

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY.

CHAPTER V.

CORRESPONDENCE WITH HIS FAMILY.

'By cool Siloam's shady rill
How sweet the lily grows!
How sweet the breath beneath the hill
Of Sharon's dewy rose!

'Lo! such the child whose early feet
The paths of peace has trod,
Whose secret heart with influence sweet
Is upward drawn to God.

* * * * *

'Dependent on Thy bounteous breath,
We seek Thy grace alone,
In childhood, manhood, age, and death,
To keep us still Thine own.'

- BISHOP HEBER.

'THE children of the present age,' says Dr. Watts, 'are the hope of the age to come. The circle of thirty years will plant another generation in our room; another set of mortals will be the chief actors in all the greater and lesser affairs of this life, and will fill the world with blessings or mischiefs when our heads lie low in the dust.' Home education, so strongly urged in his time by Isaac Taylor, found a convinced friend

in Thomas Best Jervis, who did not ignore the advantages of public school training, even as it used then to be. He writes:

'We should do well to consider what a *home* is—not always the place of abode of our early years; nay more, not always the fireside of the parent. Isaac Taylor has his thoughts turned to the parental loving hearth of the Christian, who desires in the earnest simplicity of his relationship to those whom God has made peculiarly dependent on him to prepare his loved ones for eternity as well as for time; to fit them in their stations on earth to take their stand among the sheep in the ingathering of the fold of their great Good Shepherd. That preparation only is, in the truest acceptation, education.'

A fine educational spirit pervades all his correspondence with his children, of which some extracts will be presented to the reader, as well as in the line of conduct which he laid down for himself in his notebook:

'*Memoranda.*—To put no book into my children's hands without some knowledge of its purport, contents, and the author. To suffer nothing objectionable to fall in their way. To encourage a taste for inquiry, specially in all matters of simple Christian truth, and the works and dealings of our great and gracious Maker. To inculcate the strictest adherence to truth in all possible ways, whether of conduct or speech; the fear and love of God, and kindness, forbearance, and charity to all men—specially and practically to show out that love to those who love the Lord Jesus Christ in sincerity. To be modest, humble, patient, active, generous, thankful, obedient, compassionate, forgiving, frank; not slothful, not careless, not inattentive, not disrespectful, not sly, not covetous, not selfish, not vain, not proud, not self-opinionated, not mistrustful, not untidy, not negligent of decorum, not impatient, not lazy, not peevish, not contentious, not quarrelsome, not deceitful, not ungrateful, not malicious, not imprudent, not sinful.'

With what tenderness does the undaunted soldier write!

'MAHÁBLESHWÁR,
'*November* 18, 1839.

'MY DEAREST BOY,

'Here is papa once more, surrounded by his pretty favourites, speaking, in the language of heaven, the unchangeableness of their great Creator. All the year round these lofty mountains produce a continued succession of new flowers, and each contributes its peculiar nourishment to multitudes of living beings, which bespeak the *universality* of God's providential care, and the infinite power and wisdom necessary to their *sustenance* as well as their first formation. The nineteenth Psalm expresses more sublimely and concisely than I can how much is to be learned by observing these things. I hope your heart and disposition will lead you to the love of Nature, and the glorious objects, not all great nor all small, but never to stop in the middle of your lesson—as some foolish, proud people do—but go on and learn from all this assemblage of beauties and wonders the character of Him who made them, and your situation as a dependent being and servant of His, and made, as they all are, for His glory. Our blessed Saviour commends the love of truth in such studies; He says: "Consider the lilies of the field," etc.; and many such allusions are made by our Saviour, and in the Psalms, Gospels, and Epistles, and the vine and the vineyard are prominent instances. The olive branch of Noah's dove, and Jonah's gourd, are more instructive than they at first sight appear. The oil of the olive is a most wholesome, generally useful, soothing, pure, and nutritious oil. And I have observed of many plants of the gourd family that they quickly die if touched; the stems, the flowers, and the young fruit are covered with a sort of hairy bristles, which carry off all the juices taken up by the roots and leaves, after extracting what is necessary to the growth of the plant, and if these are injured the plant quickly pines and dies. But one exquisitely apposite allusion is the care of the Good Shepherd for His sheep. My friend and companion of travel through the great desert

of Egypt, Dr. Lovell, of Massachusetts, America, told me he and his wife and daughter were travelling last June through Syria, and in the heat of the day observed a Syrian shepherd descending the side of a rocky mountain, marching with a staff at the head of a flock of sheep. Every now and then he stopped and called to each as it wandered away from the flock, and, as his guide informed him, called out to each by its separate proper name, on which it immediately fell in and joined the rest. He led them down to a pool of water, where there was a deal of verdure arising from the lowness and moisture of the spot, kept later in the shade and thrown into shadow much earlier by the loftiness of the adjoining mountains. This is no fanciful picture, but a true account of one of those sublime and tender descriptions in which our blessed Lord is pleased to exemplify His love to His children, to the chosen of His flock. So He leadeth His "people like a flock"; He leadeth them to "green pastures," beside "the still waters"; He calleth them all by their names, but they know not the voice of strangers. . . . Here, and throughout the East, the shepherd's tender consideration for his flock is proverbial. And thus it is that God has so signally manifested His condescension to our weak and limited understandings by casting His greatest images in this comprehensive mould, in the engaging objects of Nature or humble life. All such observation and study, if properly entered upon, and sanctified to His glory, multiply the sources of earthly enjoyment, and withdraw the mind from selfishness, which, with natural pride, is the great and universally besetting sin of our species. We must therefore enter upon all such pursuits with a desire to see and learn, and not, as some, to fancy, and theorize, and dictate to Nature; for all those who have attained to any remarkable eminence in any department of science and knowledge have learnt first to be humble, and then, in each degree of improvement, to see that they were still further than ever from a perfect know-

ledge, as the Christian, spiritualizing such pursuits, sees in every advance in holiness that he needs more grace, needs more light and help as he progresses.

'Perhaps many people will think your dear papa an enthusiast in these pursuits, but these are such as have supplied me during the greater part of my life in India with an inexhaustible fund of instructive comfort and occupation. I can find no place where these loved objects do not present themselves, and there is no place where they have not spoken in language at once intelligible and endearing. I am so fond of flowers that I can usually recall to mind the very spot where I found them; I can associate with it the very occurrences which such objects bring to mind, and follow out the train of thought till the reflection is matured to some purpose of edification. . . . I have spoken of natural history and the pursuits of science because, under proper control, and legitimately used, they call forth the largest degree of submission to truth—the most uncompromising admission of truth—and the connection of truth with all that originates with the Divine Being. We may see or not, we may see and conclude from imperfect data, but truth is, and always will be, the same, and all that we can infer from any conclusions which seem at the first blush separate truth from the essential Fountain of Truth, is that they are hasty, rash, false, and impossible. It leads us at once to seek more light, more grace, more humility, and distances us in the race with the humblest Christian who throws Himself on Him who will hereafter reveal to each one Himself and all things, even as we shall be known to Him.'

'PARELL GOVERNMENT HOUSE,
'BOMBAY,
'*December* 4, 1839.

'MY VERY DEAR BOY,

'. . . You will be very pleased to hear of my having met frequently in company two young Parsís who have been converted to the Christian faith, and baptized into our

happy church by Dr. Wilson, and have heard them converse and reason with so much good sense and modesty that I do not know of any sight that affected me so much, or so deeply convinced me of the negligence and cold-heartedness of our country to the perishing heathen of this land. I hope to send a copy of the *Oriental Christian Spectator* for dear Mr. Bridges, containing a full account of the proceedings that followed upon this grand and unlooked-for event. Their public address and prayer at baptism, as well as their conduct in the trial in the Supreme Court of Justice, was most affecting and dignified, and has drawn forth many expressions of faithfulness to God from hearts before unmoved by His grace, which may be useful to parties who have had the benefits of Christian education and religious liberty, unknown to the people of Asia. They are both young men, of a fine, manly, open expression of countenance, full of boldness for the truth, yet withal modest to a degree, and I sincerely trust will live to do honour and [redacted]d service to the profession they have made. They read [redacted]ble very nicely, and answer to any questions with [redacted]ity and propriety. . . . I have often been asked [redacted]ntrymen in England if the missionaries had done [redacted] and made any converts. Here, I should con- answer, is a great and beautiful instance of the [redacted]f the Gospel, and one, I trust, to be followed up ere [redacted]y many others of an equally striking and important [redacted]ter. It has come like a voice of warning from heaven [redacted]is extraordinary race, who are unable to gainsay, or [redacted]erstand as yet, the consequences of such example upon [redacted]ir countrymen. Here, as elsewhere, "the axe is laid at [redacted]e root of the tree," and every nation is preparing for the [redacted]reat season when the kingdoms of this world shall become [redacted]he kingdoms of our Lord and His Christ. You may live, my dearest children, to see great events, and I hope, in any case, will be ranged with those who are the faithful and chosen of the Lord.'

'BOMBAY,
'*December* 30, 1839.

'I am going to send home some plants in a case for Mr. Loddigge (a gentleman who has the finest and largest collection of plants in England, at Hackney), by the *Strabane*, Captain Bowen, who brought out one for me filled with all sorts of tulips, hyacinths and scillas, and some peonies, which were never seen in this country before. There were in all thirty-nine different kinds of plants, and all were living but two kinds—crocuses and some other. Loddigge gave them all to me, and merely desired the boxes might be filled with air plants, and any pretty things unknown in England, and these are easily found for the gathering. . . . I think that natural history is one of the most instructive, rational, and pleasing pursuits, provided always you remember that every advance in natural knowledge is but the means of inculcating greater humility and teachableness in heavenly wisdom. *There are not two authors of natural and spiritual things*, and they can ne be profitably studied or rightly understood but in con with each other. "All Thy works praise Thee, I never take up a plant or the most inconsiderab a leaflet or flower—without seeing and admiring metry which subsists even in their varieties, and c trace out, where I can, any hidden design. "It is t of a king to conceal a matter." It is one of th delightful and beneficial exercises of our faculties to our highest reasoning powers in aid of correct obser on all the works of this *master hand*, and our own ap hensions are quickened and improved by the patient amination of every object in Nature. If our minds w more turned this way, we should have less time, and perhap less determination, for strifes, envyings, or any of the dreadfu consequences of idleness. . . .

'I shall never for a moment forget you, or rise or lay my head down on my pillow at night without a prayer for you,

and I recall to mind every circumstance of our lives—the mercies we have received, the privileges we have enjoyed, and the hopes we are permitted to entertain—in the happy assurance that you will all be led to have the same sources of delight, in a measure now, as in a greater degree hereafter. We are all dependent on each other every day of our lives for a thousand little proofs of sympathy and brotherhood and care, and those who are most acquainted with such dependence are by far the happiest, for they alone can understand what gratitude is, and will be best prepared by this foretaste of an angel's occupation to realize what their joy must be who hereafter shall be ever engaged in remembering that sympathy and brotherly love which our Saviour extended to us, even when estranged from Him. . . . God has thought fit to place us all in our different stations in this world, and if some are higher than others, it is that more will be required of them, and they must remember that they also have a Master in heaven, and if any are in humble estate, it is His design, perhaps, that they should learn to show out of more meekness the excellences of Christian humility and contentment. But even the greatest of men are not to be envied, or the least to be despised, for those have more trials to encounter, and these have fewer friends to sympathize with them.'

'CALCUTTA,
'*March* 19, 1840.

'I can do no more than write to you now that I am so far off, and pray for you, which I often and earnestly do, that you may be taught of God and blessed, and that you may not be self-willed, or ever give an answer to your mamma but in love and gentle submission. It is so common for little children now to be self-willed and disobedient, and to forget their duty and love to God and their parents, and their kind instructors, that I have no other prayer so much at heart as that you and my dearest Missy may be early led to avoid every approach to naughtiness. Only think if God

were, in His displeasure, to remove either or both of us, who would then be constantly at hand to instil these duties into your minds? I have been very earnest with you to be dutiful, to be always attentive to the commands you receive from us, and to observe truth, and never neglect or forget on any account to pray to God—to pray in the spirit of Jabez' prayer, which mamma will find out, and you must both learn it by heart. I often wish my poor dear papa and mamma were alive to see you, and that they had been spared at least till I could have formed some idea of them; but I never saw them after I was but a little child. I trust in God's mercy we may all be spared yet a great while, and that I may live to see you both advanced in holiness and the knowledge of those blessed truths which will be the means of bringing us all together again in a happier world, where sin and separation will be no more. I must charge you then, if you wish this also, to be very careful and do all you are bid, and to *hate* everything that is wicked, as that which will tear you from God and all you love. It is in childhood that the first seeds of sin are sown, but I trust that you will be early led by God's blessed Spirit to know and love the truth, and to shun all wicked companions, and hate every wicked word and thing.

'Mamma must get you a little tool-chest for my sake, and give Missy a little frame and some worsted to work some pretty things, which will be an amusement to you, and I dare say she will be able to teach you both to knit and net, as they are both of great service, and very pretty amusements. I am so very fond of music and singing that it would give me the greatest pleasure if you could be taught music, but I believe it is of no use teaching some things unless people have a natural taste that way, and such are painting, and drawing, music, mechanical pursuits, and natural history, so that I would not have you constrained, but gently led on if you have such a disposition, and then I should have no fear of your succeeding. . . .

How it will be with my beloved children I do not know. I only pray they may be children of God, and brought up in all simplicity; and all other little matters, I am sure, will fall out well, for these little enjoyments at best are but passing, and of no consideration but as innocent recreation, and sources of defence against idleness, the foul source of all wickedness. I do not like foolish songs and music, nor am I an advocate for Italian music; but I like sacred music most. However, that is best on the organ, and I always think if we have a good voice it ought to be exercised in the praise of its Giver. Few persons can sing who have a heavy, discontented, or wicked heart. The song of rude mirth is forced, and easily seen through, but a light heart and a cheerful countenance are tokens of submission and contentment with our lot; and God loves a contented disposition. . . . Money is one of the talents God commits to our care, but I do not know if patience, humility, and contentment are not greater talents—in point of worth—certainly in point of real wealth; so that the poor are very rich, if they will but make a right and noble use of that wealth which kings, and princes, and nobles can never have. It is not likely that either of you will ever be rich, though we hope you may never want any immediate necessary, and you must both begin very early to understand what treasures are in contentment, humility, and patience. It is these treasures which take off the desire of worldly pleasure, and blunt the temptations of sin; it is these heavenly attributes which sweeten and consecrate prayer, and obedience, and love.'

'CALCUTTA,
'*July* 6, 1840.

'MY BELOVED CHILD,

'I do not think your writing is so good as it should be. Practise large writing and the elements of each letter on a very large size. To draw or write well—in fact, to do anything—we must constantly go back to first principles; the hand must be got into a freedom, a habitual training to

neatness, consistency, and ease in the first rudiments. And so also it is in holy things, where God teaches us by inculcating "precept upon precept, line upon line, line upon line, here a little and there a little," and we see no great proficients in scholarship or art, no exercised and truly pious Christians, who do not go to the humblest consideration of their own weaknesses and need of teaching, who do not see and feel, yet rejoice with trembling at, the greatness of the Redeemer's love at their every step. They know that the foundation of their hope and faith must be laid in a simple dependence upon Christ, in rejecting all they know, that they may understand and live only by Him. I am glad, my Willy, that you are pleased with my letters. . . . It is a very great art to stoop, and I wish I could always bring my own thoughts to the level of any child's understanding, for then, and then only, are they what they ought to be, the representatives of a single heart. It is a curious thing to think with what exquisite simplicity the Holy Scriptures are written. It was called by the Venerable Bede (a devout and excellent Christian who lived in England about the time of the Heptarchy, A.D. 680 to 740) the one-syllable book, or I think that he thus expressed himself—that God taught us in monosyllables. If you look over the Psalms particularly, and many striking and instructive passages of the New Testament, you will see how many monosyllables there are. "See now that I, even I, am He, and there is no God with Me; I kill, and I make alive," etc. (Deut. xxxii. 39). "Set a watch, O Lord, before my mouth, keep the door of my lips." "Fear not them who can kill the body," and many others. How simply and prettily all these are expressed, yet how full of meaning and grace and tender compassion to our ignorance! Such should truth—such should all we say—be, the thoughts clad in the same guileless innocency, simple and to the point. . . .

'This is a very different country from the whole of the Bombay Presidency, and the natives are very far behind

those of Western India in every respect, and I grieve to see their backwardness is very much to be attributed to the loose and wicked lives, and the example of all classes of Christians so called. All the thirst has hitherto been for gain, and no regard paid to the bread that perisheth not. I felt perfectly astonished at the sights, and as much surprised at the sentiments expressed in all quarters. I felt that the efforts of the dear missionaries were quite thrown away, so long as the stream carries every poor trifler along in the tide of folly and sin, and enmity to God's sacred laws, and the declared will and work of the Lord our Master. As it is said that in the last days the love of many shall wax cold, because iniquity shall abound, we ought all, young and old, to be very earnest, and humbly seek the teaching of this blessed Lord, and throw ourselves wholly upon Him, lest we also be drawn into the same sad course. Ah, my little children, you cannot tell, as I feel and know from experience, what I have lost in life, and the sorrows I have passed through, which such tender kind advisers might have shielded me from. Value and love them, and pray for them. . . .

'You know how earnestly I inculcated respectful love and the most prompt obedience. Attend to all you are told, and remember order, the preciousness of time, sincerity, truth, and all those minor duties of gentleness, cleanliness, and punctuality. And if dearest mamma should be ailing or disturbed by any cause, you must consider what you could do to make her happy, and I pray you never to give a quick, or angry, or unkind answer to a servant, or the poorest creature on earth, even though they should cross your will. How much does the blessed Saviour have to bear in us! Be frank and always ready to tell all your little hearts would communicate. Dearest mamma and Miss Bowles are experienced and tender-hearted, and will listen to you with patience, and you will then acquire an openness of character and a modesty of principle which will grow up to manly integrity and firmness. . . .

'We do not see or know half our privileges until God withdraws Himself, or leaves us, as it were, to see the true state and depravity of the heart in a wicked world. But I hope you will all be spared that pain, and be led on in your earliest years to see and love Him, and be found always near His own altars. If you grow up in holy affection, and are attached to each other in Christian simplicity, you will find yourselves armed to the teeth against many of the severest trials of humanity. . . .

'I should like so much that we could again take that pretty ramble in Simon's Bay. The profusion of wild geraniums and lilies and proteas, and those many-coloured succulent (thick, fleshy-leaved) plants which we gathered would so delight you now. You little knew then how rich and beautiful these plants were, and yet upon what a barren, rocky, or sandy soil they grew. All climates and soils have their beautiful inhabitants, and all tell His praise who is great in power, and excellent in all the displays of His creative goodness. If such be His works, what must be His own glory—what must He be? . . . May the Lord bless you and keep you, and teach you and lead you in the good and the right way, and may the blessing of His atoning grace rest upon you all for ever!'

'BOMBAY,
'*March* 20, 1840.

'MY DEAREST LITTLE M——,

'. . . I never see any little girls but I think of you, and wish I could be back in England to walk about with you. There are no pretty shops or places at all like what we see in England; but everything in Nature is on a grand and curious scale, and I thought, as I passed a grove of date-trees, with wild-flowers growing quite luxuriantly over their half-decayed bark, that in these tropical climates everything serves to remind us of the perishable nature of the objects before us; for a plant no sooner arises above ground than the climate, and myriads of insects and birds, or perhaps

here and there some other animal, conspire to destroy it, and there seems to be a continual conflict going on between the vegetable and animal world, both of these in their turn joining to give a new character to the earth they inhabit.

'It is this changeableness of state which has induced the poor blind Hindú, without the aids and light of the blessed Gospel of our Lord and Saviour Jesus Christ, to believe in the transmigration of souls; for they think, poor ignorant beings! that when men die they do not go to hell or heaven, according to their deeds, while the merits and mediatorial office of any Redeemer are things unknown to them. So also their priests think that by favouring and upholding such opinions they will put off all ideas of responsibility to their Creator and God, and the certainty of a state of future rewards and punishments; and it suits them to believe if a man who is cruel dies that he will become a jackal or a tiger in the next life, or a plant, or any such nonsense. But we know better, and are led to praise God for being thus permitted to discern error, and to repair to His blessed Word, and the throne of grace, for a better and saving acquaintance with truth.

'. . . Be very attentive, and do not let your thoughts wander, or indulge foolish fancies and "make-believe stories," as the old nurses call them. Love and seek truth; fancy is an idle, foolish jade, and leads us off from one thing to another, till we find ourselves in the company of falsehood. I used to be exceedingly strict with the nurse and servants who were with you and dear Willy when you were little, never to pretend, or say, or do anything which had the semblance of untruth. What an idea it gives us of the importance of cultivating this regard for truth, even in the smallest things, to think that God the Redeemer is *Truth*. "I am the Way, the *Truth*, and the Life." It is to seek His fellowship, to come under the skirts of His mantle. And Satan, our accuser, is called "the father of lies." Much as this sin may be hated, very few know the real

character of truth. It presents itself everywhere, in Nature, in revelation, in past ages as well as the present, in characters so clear as to be thought incontrovertible; yet if man could but see it, what a world of love, and peace, and delight would this be! The truths of *Nature* are hardly and very imperfectly learned after years of toil and study, and then only perhaps in one or other branch; but the truths of *Scripture* are never to be acquired by any study, even of years, or ever so good opportunities, unless God's Holy Spirit teaches us to see.

'When I was associated with many great men at home, I was naturally anxious to see and know how they had become so skilful and wise in this or that science, and I found it was by giving their undivided attention, their mind and heart, to that subject, and waiting, waiting very patiently, and considering. Now, this is also the mode of the Holy Spirit's teaching, and the very way with you and me, and all whom He graciously takes by the hand to instruct. But He will abide no half-measures, no divided affection; He will have the *whole* heart in it, and when He brings us to the Word, he leaves us to ponder and think over it a long time, to try and see its meaning and application. The truths of Scripture, grand, excellent, and saving though they be to the heirs of salvation, are a dead, dark letter to the people of the world. Suppose a person were placed suddenly in the midst of a most lovely spot, with everything grand and beautiful about it, on a dark night; he could see nothing. But as the light of day gradually dawned he would begin to see the outline of trees, houses, and hills, and flowers, and animals, and as the sun rose in all its splendour these would come to view in all their beauty. And so it is with Scripture, which has in itself an infinite variety of excellences and beauties to commend its essential truths; but these are hid from our perception till the light of Divine truth dawns upon our hearts, and the Sun of Righteousness rises with healing in His wings. . . .



S.a.d a.g., Geneva

INDIAN FOREST GROWTH.-PALMS

From a pen and ink drawing taken from Nature by Major T. B. Jervis

Printed in Switzerland

'I sat watching with delight a few days ago some poor little *Sídí* (Abyssinian) girls, who were very black, with frizzly hair, sewing and singing, and they have been brought up to read the English Bible and know Jesus Christ, and they seemed to have borrowed their happy looks from His children, and quite put on a new face. All people look forward with great hope to some important changes in the state of India, and *I trust it will be one of the first of nations to throw off the chains and abandon the dark crimes of idolatry.* May the Lord Jesus bless, comfort, and preserve you, and dearest mamma and Willy! Remember me kindly to poor Hannah.'

'CALCUTTA,
'*July* 27, 1840.

'MY DEAREST LITTLE A——,

'. . . All the country about Calcutta is very flat, and its appearance very much like the low, flat lands of the Konkan rice-lands—large vistas of green meadows, and trees of every variety and tint of green skirting them. Along the confines of the woods is a variety of pretty climbing and humbler plants, now in full bloom; but all is in such a complete state of Nature, so wild and neglected, that it takes away from it much of the charm, since a few leaves, branches, and grass contribute, with other things, to make at every short interval little pools of stagnant water, which, no doubt, are the cause of much unhealthiness. The weather here is very sultry at present, though we have had a very unusual fall of rain. The rains are much heavier in tropical climates, because the exhalations are drawn hither from the poles, by reason of the great heat caused by the sun. This great heat, together with the heavy rains, makes all vegetation grow vastly more quickly, and of a mightier size, than in the colder regions of England, where the sun is not so vertical. But if man is not there provided with so lavish and rich a store of the earth's productions, there are compensating privileges and advantages of another kind, and the nations

of the North are more able and more disposed, physically, to earn their bread by exertion, which sweetens every acquisition. Idleness leaves room for evil thoughts and evil doings, and it is always well to be innocently and, as far as may be, usefully employed. It is therefore a great privilege that you have your lot cast where industry is honoured, and made the occasion of preferment, and comfort, and health. . . .

'I have got some curious little parrots, called *lutkuns*, or hangers, because they hang with one foot to the cage or boughs of trees; they are very gentle, pretty things, not bigger than sparrows. I often wish I could send them, or many of the pretty birds flying about.

'Dr. Duff was telling me last night that when he came up the Bay of Bengal to Calcutta in May, as the great storm was raging, and the masts giving way, a pretty little bird they had on board, in the height of the storm, commenced its carol, "There's nae luck about the house," quite undisturbed by the crash of elements and the confusion and consternation of the crew. Such—undisturbed and trustful—will be the Christian's breast when all the conflicting elements of the world engage to disorganize the course of God's blessed providence. But let us know in whom we have trusted; let us indeed trust in Him, and He will never forsake us in our greatest extremity. And now farewell, pretty one.'

'CALCUTTA,
'*August* 2, 1840.

'I hope and desire, as you both regard me, that you will attend most cheerfully to all Miss B——'s injunctions, and give her no occasion of trouble or regret. It is a little return for her devoting this attention to you that you profit by every lesson so solicitously inculcated; but any little offices of love and consideration will tell her of inward heartfelt thoughts of gratitude, which must, as I trust they will, come of your own free will.

'I do not remember any of those boys who were educated with me, and most remarkable for their quickness, turning out eventually such sound scholars, or in other respects so very superior to their fellows, as those who by patient attention mastered the different branches of knowledge by slow and painful exertion. There is nothing so effectual to all good things as perseverance. You must take dear Uncle Pouget's motto, *Perseverez*. This frame of mind lends efficacy to prayer, to hope, to submission, and to love. In all our pursuits in this world, or in relation to the imperishable characteristics of a better, it calms the mind, gives singleness and firmness of thought to every purpose and undertaking, and in those concerns of a spiritual nature is recommended to us by the promised blessing of a Saviour; it gives wings to opportunity, and takes heaven's gate by violence. Now I have shown you how much is to be got by perseverance, you see how necessary it is to do all things deliberately, not to be over-hasty, or to take anything in hand without first considering the end you have in view, what you propose to yourself to say or do. From neglect of this it is that so many errors are committed, so many rash things done and said, and so many great undertakings fail; and whether you hope to be useful and respected in private life, or to be skilful and well informed in any art or profession, you must begin early, as little children, to restrain impatience, to regulate your thoughts, to submit yourselves very reverently to your dear instructors, to dear mamma. For myself, my dearest little children, my prayers, I believe and confidently foresee, will find acceptance and a full return from that dear Saviour to whom mamma and I have often dedicated you.

'This is all I am now permitted to write, but I shall not cease to commit my very dear family to His gracious care, to plead His promises and entreat His compassion, and at His throne you all seem to meet with me and join in praising Him for the many—oh, how many!—unseen mercies He has

hitherto bestowed and still dispenses to each one of us. I hope you try to put in practice all the good instructions you receive every day, and talk over with your dear little sister what is presented to your minds in the Scriptures every morning. "If a chapter be read by the eye merely, while the mind remains inattentive, and the book be shut as soon as the chapter is finished, and thus what has been read immediately escape the memory, what is there to surprise if, after the whole Bible has been several times read through, we discover in ourselves no increase of piety or devotion." David says (Psalm cix. 16), "I will not forget Thy word." I hope the Lord will write His law and imprint His word on your hearts. You do not know now how great your advantages of instruction are. Let your childish prayers be daily offered in meekness for all the benefits of such privilege, and dedicate all your thoughts, and hopes, and affections to Christ. He loves little children, and will love you also if you fear and seek Him.

'I hope you will find some little instruction in my letters. I am far more anxious to see you each a child of God, built up in the knowledge of His will and spirit, than to be possessed of all other riches and attainments. Yet, as we are here in the world, placed here by the Divine appointment, we must cheerfully take our part in the universal duties of life, and Christianity—very different from any other religions—is a constant, living, busy principle of love, exertion, and charity. In our prayers we must consider all men, as well as that God with whom we have to do, though our love be more straitly drawn towards those with whom we are connected by affection, relationship, or duty, and specially for those of the household of faith. Yet in secret, in daily communion with God, and in His holy house, we are to throw away all selfishness, in the spirit of Him who loved us all, and died for us all, that we might all be united in one body, His Church. And so also, in all our daily concerns of this world, we should strive to do well what we engage in, that every looker-on, every passer-by, may take

account of our example, our industry, our good temper, our forbearance under trials, our patience under little crosses. We are not always successful, and must apply more strength, we must wait the issue of our work; and all this, well considered and remembered, will lead us also to consider how much is to be gained by a like course in spiritual matters, for God has set all the world, its mechanism, its beauties, its changes, and all the circumstances and dispensations of His providence and peculiar dealings with us, only to lead up our hearts to Him, to bring them forward in that knowledge and holiness which shall last through all eternity.

'I would particularly impress upon your minds one awful reflection, which, if seasonably considered, is productive of great comfort, and will carry all men through great difficulties: the employments of our present state, the direction of our present pursuits, will, as far as we may safely infer, be in a great measure expanded into a far greater sphere of action in eternity, for good or for evil. The Divine Being has, doubtless, impressed a certain character or organization of activity on each one of us. That energy, cultivated and directed by holy precepts, will seek out many paths of usefulness to His praise, and service, and glory, or will be turned aside by lending a too willing ear to the world, our own depraved hearts, and our great adversary. It is grace, and constant application to the throne of grace, which alone can enable us to resist that evil influence or choose the good; that unseen and disavowed as it too commonly is, the self-same principle operates through all the walks and concerns of life, and every pursuit in which we may engage is influenced by it. If you seek knowledge, or skill, or discernment of the difficulties and operations of science or art, go to it with a spirit of dependence on God; go to it with a mind humbled to find itself occupied in the great researches of His wisdom, acknowledging Him in all your successes, and submitting to Him in all your inquiries. If success should bless your path, stop and give Him all the praise; if you should fail,

you may still rejoice over the kindness which reminds you of your present imperfect state of knowledge, and the prospect of delight which will come over us in an unseen world, when all shall be perfection, and "we shall know, even as we are known." Oh, how dreadful must be the case of those who grovel only in vice, and love lying rather than truth. How could they appear before a holy God, or participate in joys, or knowledge, or pleasures such as His kingdom will present? How could a selfish, heartless creature, who thinks only of his own good and improving his own fortune or understanding, partake of those happy occupations which the angels of God delight in? Now, if a man enters on any profession, or occupies any station in life, and thinks only of himself, or his own family, or his own darling pursuits, his advancement in the world, or his present comfort and freedom from want and trouble, without any regard to others of his fellow-creatures—whether his situation be humble or great—he or she may be very moral to the world's eye, a very respectable, good sort of person, but is not really one of God's *children*. Such an one has not the dear, bright, and glorious principles of activity which His servants have. And if we wish to be such, we must have the foretaste of the enjoyments of heaven by carrying it out into all our pursuits on earth, striving with diligence and observation to obtain the full measure of the spiritual energy impressed on our natures by our Master and Lord, encouraging others at least by such an example to refer their gifts, and graces, and best services to Him.

'I think, from many very interesting conversations I have had with some of the most profound thinkers and able men in this country, that *all men have some peculiar abilities with which to serve God, greater far than they suspect*, but that we are sore let and hindered by our present infirmities. Nevertheless, these also may by cultivation be turned to great account, and give direction and value to our services to our fellow-creatures. One man has a talent for languages, another for

mechanics, and another for natural history, or any department of science. But the submission of these faculties to the Divine principles of patience, truth, humility, and love, is that only which can bring out the full capability of that heavenly nature, destined perhaps, as they have frequently believed, to be exalted to a more glorified and infinitely enlarged state of intelligence, conjoined to power, hereafter.

'How will those who now sing His praises be delightfully engaged in hymning eternal hallelujahs in the courts of His blessed abodes! How will those who now love to discern and penetrate into the mysterious laws of His creative goodness, expatiate with wonder, and gratitude, and admiration, in the view of His boundless exercise of ever-varied power! Every office of love, and goodwill, and charity, will there have its consummation.

'Well, now, my dearest children, how careful should these blessed but awful thoughts make us to begin on earth what may be extended to our infinite pleasure, and shun what will entail infinite woe and trouble hereafter; for all sin, all sloth, all selfishness, and disregard of His precepts, bring but distress, and cares, and sorrows here, and must be the occasion of eternal anguish. Never forget this: Christianity is an *active*, loving, cheerful principle. "See how these Christians love one another." The Christian, like his Saviour, always goes about doing good. And I feel the more anxious, my beloved ones, to impress this on your hearts, considering in what dreadful evil days we live, when so many wicked persons are daily going about the world and teaching things in all senses contrary to God's holy word; but more than this, that you may live to be active and devoted to His service, when probably there will be greater occasion for increased activity than ever yet was the case.

'I do not fear that God will leave you without a friend, or to want any good thing with such principles, but I should rejoice to see your earliest days marked by love to Him, and love to His commandments and servants. I consider

it a great source of happiness that dearest mamma remained with you, for there is no love like a mother's love, if that love be in Christ. I am sure she sees and values her responsibility; and I rejoice also that you have been brought up with your dear little sister, for that is a very tender, engaging tie, and after-life will improve it, I trust, to much and enlarged comfort, when we both are summoned away. . . May the Lord bless you.'

'CALCUTTA,
'*September* 9, 1840.

'MY DEAREST W——,

'. . . Be always ready in time for God's sacred service on Sunday; be at church before the service begins. Be always ready at prayers, at meals, at the stated hours of any business or duty, and then perform whatsoever you do as if you loved the person or the work you are engaged in, and all in the name and love of the Lord. Do it as if your heart were in it, so far as circumstances and your health and strength permit. Punctuality is a great recommendation, and the handmaid of a cheerful, consistent Christian life. If you are flurried and confused before you go to church, or the blessed service of family worship, or any other thing you may be called on to do, your mind will not be calm and properly composed, nor that religious instruction you go to hear likely to be of any use. God shows us in His works and Word that order, and time, and seasons, are appointed for all things, and St. Paul says: "Let all things be done decently and in order." Now, they, the world, "strive to obtain a corruptible crown, but we an incorruptible crown." Let us strive for the mastery in all things; which word *strive* means much more than labour: it means giving our heart to the object we have in view. It is the greatest and most sure proof in the world that the Scriptures are the inspired Word of God, that every word is full of meaning. The original Greek is *agonizesthe*—contending for, being exceedingly earnest. From which is

derived our English word *agony*, where all, the whole heart, is engaged, and suffers from this poor mortal coil, for we are *spiritual* beings, clothed upon by a body full of infirmities, which are given us to contend with, that we may approve our love and service to the Lord. . . .

'I hope you both cultivate your memory—not with mere *words*, but with something valuable and instructive to your hearts, as it will probably be also to others. And, besides that, poetry, like music, if well chosen, gratifies the mind; it stores it with a rich and great variety of thoughts: not only does it soothe us in sorrow, and supply the empty places which Satan would sow with evil thoughts, but it builds the soul up in holy resolution and practice, and has frequently been known to give great peace to a dying-bed. . . .

'All these little arts of education are not to be despised.

'The herdsmen and mountaineers of Switzerland, who live upon the highest habitable spots, so soon as the sun has set in the valley, and the last faint rays gild the snowy crests with its parting light, pronounce through the horn with which they usually call each other and their cattle, just as they do on board ship with a speaking-trumpet, but in a more solemn, impressive manner, "Praise the Lord God!" each mountaineer in return, as he hears the sound, repeating it till the whole air rings with praise. This is said to continue for a quarter of an hour, when, night beginning to close in, they all kneel down and pray, when a parting farewell summons them to retire to rest. What will be the glory of that song which shall proceed from Mount Zion when the Lord hath gathered and redeemed all His people? May we be among the number!'

'CALCUTTA,
'*October* 16, 1840.

'MY DEAREST LITTLE GIRL,

'. . . It is a long time since I saw you wave your little handkerchief, your last farewell, but I sometimes think

it may yet be my happiness to see and watch over your early education, and be privileged to assist in imparting some truths, some seeds of religious knowledge, to be effectually employed when you grow up to womanhood to His praise, who created, and loved, and redeemed us by the most ignominious of deaths. This, I think, children often understand and see more than older persons; but in proportion as you exercise love, and do all things in the spirit of Christian humility to those around you here, you will be better able to know and participate in that higher, purer love which they, the angels and happy saints, have for each other in the presence of perfect Love—of God their Saviour.

'. . . Do you still love papa, and do you think of him, and pray for him, and do you wish his return? I believe you all do, and I would forego much to realize that joy. But these things are in our heavenly Master's hand, and if it be in His good providence to order it so, my own inclinations would soon bring us all together. I feel very solicitous about your progress, not in reading and writing so much, as that you should pay the most special attention to the lessons inculcated by dearest mamma and Miss Bowles in questions of heavenly-mindedness, gentleness, truth, and that you should be tractable, more ready to hear than to reply. . . .

'Throw yourself upon a Saviour's care, and beseech Him to make you docile, to correct every hasty opposing principle, and make you in all things glad, forward, and earnestly desirous to do His will, to love your instructors in Christ—those kind, affectionate friends who point out your duty. And there is one thing I used frequently to observe: a little will, a little arguing spirit, which would creep in, and put better thoughts to flight. Now, dearest child, think how dreadful such a spirit would be if it once got uncontrolled possession of your heart. It would not only indispose you to hear and love those who are so affec-

tionately engaged to teach you, but would lead you far out of the way of truth to the wild, ungovernable fancies of sin. When it would plead, therefore, that you know anything, and would have your way, let this be your reply and conduct: "I am now young, and will follow those whom God has appointed to lead me, that when I am old God Himself may guide me whither He wills, and enable me by such early discipline to submit myself to His teaching." Yet all this, and much more, Miss B—— and dearest mamma will again and again impress upon your memory, and, I trust, the Spirit of Grace will write in durable lines on your heart. Do you indeed love me? . . .

'I have said enough to satisfy you how much I feel, and how earnestly I desire and pray for your improvement in those holy qualities which, begun on earth, will form the everlasting companionship of peace, or, neglected, of distress in the enduring existence of immortality.

'I fear you are now too close in your application to books. Do not forget to *think* and talk over what you read with mamma and Miss B——, that you may in a measure make others' knowledge your own; and I dare say mamma will find other light pursuits for you. It is not good to be idle, but there is such a thing as being over-diligent to no purpose. I should be rejoiced, as I have often said, if you both loved music and drawing. I hope it will be my happy privilege in after-days to hear you both join and sing His praises whose praise is in all His works, and who deserves far higher praise than our best songs can raise. I love sacred music above all kinds. It may be happy, cheerful, or solemn; it may raise the languishing spirit, calm the troubled mind, or speak out joyfully in accents of gratitude and delight, but it is quite superior to the foolish, volatile, unsettled breathings of an empty mind. Dearest mamma, and uncle, who knows a great deal about these matters, always speak of Miss B——'s talent with great kindness, and I often wish I could wing my way as an unseen angel

to witness and partake of the happiness you enjoy together. I see a great many people, and have, as far as the eye goes, enough to entertain me, but still I am solitary without dear mamma and my children.

'I have been over to see the Orphan Refuge at Agurpára, nine miles from Calcutta, on the banks of the Ganges, kept, as it was founded, by dear, good Mrs. Wilson. There were 137 poor little girls, from three or four to eighteen or nineteen, children that had been thrown into the Ganges, or found by their dead parents' sides, during famines; or in some cases poor little girls exposed to wild beasts in the forests by the poor ignorant and superstitious Hindús, to appease the anger, as they term it, of their idols. Mr. Chapman and Mr. Alexander, two dear good Christians, took me over, and when halfway we met Mrs. Wilson coming into town. We easily persuaded her to return, and then, coming unexpectedly, saw these little girls at school. Four young ladies assist Mrs. Wilson, and they were all sitting at work, or reading, or sewing. They were many of them nice-looking girls, so cheerful, so apparently happy and contented, all in knots, with the elder girls directing. There was a large party all working in worsted, and one poor girl about eighteen was the first that caught my eye; her work was very beautiful. On speaking to her, I found she was deaf and dumb. Their work is sold, and I begged Mrs. Wilson to let me purchase this beautiful specimen for dear aunty, and I think it is quite as good as any work I ever saw in its way in England. There is also another, smaller, by another little girl, and a pretty bag for you or mamma.

'After we had visited the church, the mission house, the school, and all the buildings of the Orphan Refuge, as it is called, which have cost probably £4,000, all raised by Mrs. Wilson herself among the friends to the destitute females, we went in and found the poor girls all assembled to sing a hymn and join in their evening prayer. The elder girls stood in order on the three sides of the room,

the younger in the centre, all so clean, and neat, and modest, and cheerful. It was a sweet thing to hear them join in an English hymn to the Saviour of the world, many, perhaps, born in idolatrous, bigoted families, rescued from destruction to His eternal praise and glory. The hymn concluded, they all reverently knelt down, and we joined with them in prayer, an elder girl, about seventeen, named Jane, offering clearly a very affectionate prayer. The Lord's Prayer was joined in by all. The worship concluded, they quietly separated, and were soon summoned to their evening meal of rice and curry, and I saw them all sit down with such glee to it after one had offered up a prayer. I said to dear Mrs. Wilson, with whom we afterwards drank tea in her own sitting-room, I only wished dearest mamma and my children could have seen that pretty sight. Ah, how much pleasure there is in making others around us happy and contented, in sharing our bread with them! I trust this will be your feeling through life, though it were to straiten your own comforts. After dinner the girls went about the grounds, some walking, some reading, some sitting chattering, all as happy as could be. I do not know that I could recall a more pleasurable day than our visit to the Orphan Refuge.'

To his little girl he writes:

'CALCUTTA,
'*July* 2, 1840.

'MY DARLING A——,

'. . . I long to be back again safely with you, and I think it will be much sooner than I expected when I left you at Torquay. It is very solitary for me here, for no little voice, or sweet companions, are ever to be heard or seen which are half so endearing as those of my dear children and mamma. But this separation, like all other events, is ordered, and no doubt will be overruled, by our blessed Father for our common good, and in the meantime we must

be patient, and pray fervently and often for each other, and await His own good time and pleasure; and if papa and mamma remember that a blessing will be entailed by their love and obedience to God on yourself and dear Willy, you both will also recollect that your good or bad conduct will revert in happiness or sorrow on us, and I am sure you will strive in all things to work, with God's good Spirit, in fulfilling all His will, by real, sincere gentleness and undissembled affection, attention, and obedience. I see here, my little dears, oh! how many mothers and fathers who have no fear of God before their eyes, who scarcely acknowledge or know of His existence, and who think they do wonderfully well if they keep their children in health and provide them with suitable food, attendance, and clothing, but for their minds and immortal souls provide and care nothing. Often they are suddenly called away by death, unprepared themselves, and unable, or incapable, at the last hour, to provide for the spiritual necessities of their helpless children. Can it be wondered at that these should grow up neglected and in ignorance of true religion? Yet God is very merciful, so abundant in mercy that He often selects from *these poor neglected ones* to raise up the brightest ornaments of His electing grace. Not that negligence should teach us so to act, but that we should thence learn that *all, all is of His mercy*, to save and teach whom He wills, and whom He wills to set aside. But His promise to those who love and seek Him is sure and eternal, and I hope and pray that it may be our blessed lot to stand before His throne *all together*, loving and beloved, as pardoned and redeemed by Him alone. . . .

'Oh, my little children, if I could see you grow up together in true brotherly and sisterly love to each other it would be the greatest comfort I could hope for, for where that love truly exists, Christ is formed in the temper, and has made those hearts His dwelling-place; yet not a fickle, foolish affection, but one where heart sympathizes with

heart, and grieves or rejoices as the other sorrows and suffers, or is made happy and contented. Love one another, and pray for one another, and admonish and comfort one another in all your little trials, and let God be all your hope and all your praise.'

'CALCUTTA,
'*October* 15, 1840.

'MY DEAREST W——,

'We are afraid that the disturbances which are going on, and Mahomed Ali's ambitious, warlike projects, will prevent our sending our letters at all by the way of Egypt; but the communication is becoming greater every day, and last mail took 25,681 covers, probably containing 40,000 letters, for England; as you know, I have sent two or three letters under one cover. What a blessing it is that we are thus able to communicate our thoughts by writing! Some years ago the only means was by sending letters round the Cape, and they reached their destination not unfrequently in five, or even six, months, instead of which now they have usually reached us in as many weeks. A lady arrived at Calcutta, having come by the way of Egypt to Bombay, and thence came by sea in seventeen days to this place, altogether something short of two months from England. Was not that wonderfully quick travelling? I anxiously hope myself for every facility of communication, as such will bring about great improvements, and put a stop to all warlike movements. The restless Arabs, who were everlastingly engaged in piratical warfare, and in committing the most cruel excesses on their own and other people, are quite unable to commence building or preparing ships for any such wicked purposes, now that our little steamers are in and out of their harbours unexpectedly, without being liable to detection and immediate punishment. Neither can the slave-dealers' vessels escape the pursuit of the steamers, nor any great movements of troops occur anywhere but we get immediate intelligence. So that, as the object of the British people is

peace and the pursuit of commerce, we trust also that it will in its way open up a door for the spread of the Gospel, and the name, and honour, and precepts of our blessed Lord and Master, Jesus Christ, the great Prince of Peace.

'The present state of the Christian Church and Christian missions is very melancholy, but every son and daughter of Adam is a missionary, by his example, his exercise of faith, hope, and charity, and every little boy and girl, by the sweet display of obedience, gentleness, truth, and goodness, can show forth the same desire to promote the glory of God's name and the coming of the dear Messiah's kingdom.'

'SHIP "HELEN,"
'SAND HEADS, HÚGLI RIVER,
'*October* 2, 1840 (on way to Bombay).

'I fondly hope ere long we shall meet again, and that I shall be able to walk about the fields and point out the pretty flowers and objects, and talk to you of the wisdom that designed and formed them for various purposes. But to enjoy any subject as a Christian we must come to it with a pure, humble mind, and must lean upon the Lord, and not upon our own understandings. I have dwelt with great satisfaction on the privileges you have of a clever and pious instructor, of a dear mother, and an abode where Christianity is a welcome inmate. If I could tell or show you half the piteous lot of the heathen—a word neither understood fully nor felt heartily in England—you would tremble to look back on the undeserved mercies you heedlessly pass over day after day unobserved, the multiplied sorrows and troubles you escape through the tender regard of a Saviour, but far more than all this His unsurpassed, incomprehensible love, which imparts to you the benefits and blessing of the Gospel, while millions perish for lack of knowledge. I am sure I could not make a more tender appeal to your heart than by calling you, as one of that dear little Christian fold, to follow the great Shepherd, who said: "I come to do Thy

will, O God," "Not My will, but Thine, be done." This is obedience, this is love; and if you really love mamma you will never suffer anything to mar or hinder that obedience. Think of the winds, the raging elements, unmasterly, wayward, uncertain; these also obey their Master and Lord. There is a pretty hymn of Bishop Heber's:

> '"The birds that wake the morning,
> And those that love the shade," etc.

Try to get it and learn it. . . . Think how much you owe to God for His continual providential care.'

'BOMBAY,
'*January* 29, 1841.

'MY OWN DEAREST W——

'. . . You are always foremost in my remembrances, and I hope you, my children, will also not forget me. Time and absence, and other scenes and circumstances, soon obliterate the strongest traces of affection which are not founded on Christian principles. I have felt satisfied in all this long and painful separation that you are both under the eye of a most devoted and pious mother; indeed, this is the only consolation I have, next to the providential watchfulness and goodness of our heavenly Father. I know that she will act with firmness and prudence, and all I expect of you both is unhesitating obedience. Never, my dearest children, ask why or wherefore she does or orders this or that, but obey her without a word, and do all in your power to cheer and make her happy. You will find that obedience in much greater matters, in all future time, will become much easier and sweeter to you if you attend to her injunctions while you are young. You may probably see many little children, or even grown-up persons, wilful, passionate, and disobedient; but do you, in love and remembrance of me, treasure up and observe what I now tell you, and so often have told you. God, in His goodness, presented the Ten

Commandments to our minds in a few short sentences, that the poorest memory or understanding might retain and comprehend them; but He leaves us to meditate and apply them in that measure of love we have to Him and them, and the first commandment with promise—which directs us to honour father and mother—means much more. It requires honour to whom honour is due, and obedience and submission and humility in all the relations of society. It is as necessary for the young and the servant to attend to those set over them as for the child to obey its parents; and in learning obedience as children, we shall learn how to give good instruction and help when we grow up to those around us, for it is only by putting ourselves in the position of those with whom we have to do that we can be charitable, or just, or beneficial. So, my dear little boy, it was an amazing act of Divine condescension in the Saviour to take our nature upon Him, to be exposed in His human nature to the same terrible infirmities and sorrows and trials, as men frequently have, that He might rightly participate in our griefs and necessities and sufferings. And how much have we to be thankful for in our daily supplications at the throne of grace! I do earnestly join with dearest mamma in the desire that you should both find delight in such affections, and be in heart and deed established in the grace and love of the Lord Jesus Christ. I wish I could see and talk with you now, and tell you how fondly I love you and desire your improvement in all that can make you good and happy, now and for ever. I picture all your pretty ways and thoughts, and feel that I am deprived of the greatest pleasure in this distant land, though I fear to decide what is to be done, for I am still unable to get away. . . . My dearest little children, if it should please the Lord to remove these difficulties and point out the way, I have no desire so strongly at heart as to be enabled to teach you, and to give up my time and best ability to impart to you all I know.'

'BOMBAY,
'*January* 3, 1840.

'. . . As I was going on the esplanade a short time ago, I stopped at a gentleman's bungalow to inquire of the servant where I could find Dr. Bird. Who do you think should come out but poor old Bapú! He seemed quite overjoyed to see me, and asked after Madam Sahib and Chota Sahib (the little gentleman) and Missy Bábá (Miss Baby), which you would be called until I and dear mamma were gone. He asked me many questions about you all, and said he was living with a lady whose husband was with the army of the Indus, but when he returned he would come back and go anywhere with me. I like old faces, and the Hindús—indeed, all the people of India—are the most attached servants I ever heard of. All my people, immediately I returned, either wrote from a distance or came to me and begged to be readmitted to my service. If we could feel the same simple single-heartedness to our Redeemer, and love Him with a proportionate reverence, how much would it redound to our enjoyment and to our spiritual good! It is very wonderful that these poor heathens show so much virtue, considering how wretched and vile their idolatrous superstition is, and they have neither good books, nor good teachers, nor good ministers, nor good examples to help them. All these *we* have, and they *have not*. Yet *we* fall lamentably short of the most ordinary qualifications of Christianity, and *they* put us to the blush by doing so many things worthy of Christians. Only this one thing we must bear in mind, that no good action can proceed from us, nor can anything we do out of Christ be acceptable to God; but He must be all, and in all, and He must have all the glory and praise. It is otherwise with the poor heathen, who has a witness within himself—that powerful monitor, conscience, approving, excusing, or counselling him what to do. There is a mighty difference, however, between the

service of the heathen and the real Christian when once the grace of God has brought the latter to feel the efficacy of the Saviour's power upon his heart. Even those who are but nominal Christians are more respected and trusted and beloved by the natives in extreme cases than their own countrymen, so great weight do even the enemies of Christianity attach to its moral obligations. I sent copies of the trial of the Parsí converts, and shall send a copy of the memorial of the Parsís—not the converts—against the Christian missionaries. . . .

'I went a short time ago with Sir James Carnac (the Governor of Bombay) to see a large silk establishment where they rear the worms in vast numbers. They work the silk up here, and make very pretty things of it, and in time they will probably have great manufactures of it; but all things must have a beginning, and there must be a demand for it before anyone will venture to lay out much money on mills and mulberry plantations and machinery. Men calculate with great care all that they undertake in worldly matters; it is only in God's service that they are unmindful. But you will begin early, and fear Him, and pray that He will keep you in the way of His commandments. . . .

'I shall be very sorry if you do not keep up the practice of learning little hymns and other useful things. To learn to repeat things by memory is of great use, because it often supplies a vacant moment with some happy food for reflection, and one feels a delight to see anything that presents itself come up to our previous conception or information. But, besides this, it trains the mind to discipline and regulate its thoughts—to weigh and arrange and dispose of all things in order. It soothes and softens asperities of temper and expression. It is, like music, calculated to moderate and comfort, and in some instances to lead us on to better conceptions, for the world is made up of many little items, and experience can teach us how to use and improve all to our benefit. But there is nothing like good

sacred poetry, next to that dear, good Book which is our guide in all things, and that I hope you will love also before all others.'

'BOMBAY,
'*February* 1, 1841.

'MY OWN DARLING M——,

'. . . We were afraid not to have been able to receive or send any letters by way of Egypt; but now our alarms have all flown. Is it not wonderful, at this great distance—6,000 miles—to be able to communicate our thoughts to each other so nicely? We have great reason to be thankful for this means of conveying the thoughts of our hearts to each other; and as the poor brute animals enjoy the happiness allotted to them, and are yet incapable of expressing their thoughts, if they have any, except to the animals within reach of the sound of their call, we may form some idea of the difference between their capacities and our own. Yet how much greater is the difference between our capacity and that of the infinite and all-wise Being with whom we have to do, who searches the hearts and the reins, and who is acquainted with all our thoughts long before they come into our minds! How careful ought we to be, and how much we ought to desire a *pure*, calm, and holy frame of mind! My darling little ones, I hope you will check every unholy thought of passion or wilfulness, and pray daily to the Lord Jesus, who alone, with the blessing of the Holy Spirit, can enable you to do so. . . .

'I am, thanks to God, in much better health since I returned from Calcutta; that place did not agree with me at all, though I found there many most excellent Christian friends, and received the most hospitable welcome from all persons there. I have been living with the Governor, Sir James Carnac, at Malabar Point, since I returned to Bombay. This island is becoming daily a greater place of trade and resort, and the old buildings are making way for new ones of a far better kind. So that here, as in all parts of this country,

improvement is going on, and the only thing we now wish to see is the spread of the blessed Gospel of our Saviour, *for that is the great secret of all real lasting improvement.* . . .

'I hope my little ones will pray for me, as I do for the little circle at Torquay. It is allowed us to send our thoughts far abroad, and unite before the throne of grace in love; but we require all the helps of this world *to keep us from that deadness of spirit which settles down into mere words* or absolute forgetfulness. . . .'

The following extracts are from his latest letters:

'PARIS,
'*September*, 1856.

'MY DEAR W——,

'Yesterday I was taken very ill again, just as usual, and vomited and purged most severely. I wrote to Marshal Vaillant early in the day, and told him I was very weak and poorly from overwork and anxiety, but that I wished, if convenient, to see him for a few minutes. Judge how surprised we were! He was out when the note arrived; but the moment he returned he came to see us, and to prevent me—as he said—from having the trouble to go to him. He was with us for an hour or more, and most friendly and seriously concerned, and was in the room all the time I was so ill. He would not go, and said he would come again to see me to-day. I do not think this showed much pride, but rather the greatest kindness in a person of such rank and advanced age as he is, and he was most friendly both to mamma and me. . . . If you could only have seen Marshal Vaillant yesterday, you would have known what a noble and excellent man he is, and how kind he was to mamma and me.'

'LAUSANNE,
'*September* 18, 1856.

'MY DEAR W—— AND A——,

'We came here yesterday evening from Geneva. . . . Of course, with much suffering, I have not been able to

enjoy much; but, in spite of my weakness, I am glad to say I have gathered strength, and we had the most magnificent view of Mont Blanc at sunset from M. Saladan's villa, near Ferney. I was anxious to see General Dufour, Director of the Bureau Topographique Fédéral Suisse, at Geneva; but he is away at Berne, and I fear I shall not have strength to go there. I would try to go to Turin to see General Lamarmora; it would be a great object'

Indomitable hope and courage are beautifully brought to light by passages in his correspondence from Switzerland after he had been prostrated to death's door by pertinacious dysentery. In a letter to his children, dated Montreux, October 13, 1856, he observes:

'I am, thanks to God, very much better, and able to sit up a little and get about again, though I am still weak and unequal to much fatigue. The antimonial cataplasm has proved a most severe and painful remedy, and the sores it has produced are unlike anything we ever before saw; at times the heat is excruciating. I find the greatest inconvenience in the least motion of my body; I know not how to lie in one position or turn myself; but I hope, and mamma thoroughly believes, it will eventually be for the best, and I have had the most judicious and skilful mode of treatment. I have now, I think, got pretty well from the soreness of tongue and throat, and am able to eat bread and a few mouthfuls of meat. . . . Nothing can exceed dearest, loved mamma's affectionate care of me. She has unweariedly read to me, and watched over me night after night, and dressed my sores, and given me tea, and prepared our little cooking lamp. We have never forgotten you both in our constant thoughts and love and prayers, and have offered up the most fervent thanks and prayers to God the Saviour for His unspeakable, undeserved mercies to us all—to me, oh how great! Major Giberne [a retired Indian brother

officer] pointed out two remarkably sweet and wonderful prayers of St. Paul: Ephesians, chapter i., verse 17 to end of chapter, and chapter iii., verse 14 to the end. What a beautiful introduction the last would be to a sermon!

'I would gladly have made some sketches for my dearest Missy, and, in fact, before I was tied to my room and bed, did make two or three attempts; but I told you what was the chief hindrance, the constant changing of the tints every ten or fifteen minutes. We bless you both from our hearts.'

In his last letter to his children he writes:

'DIJON,
'*November* 13, 1856.

'We are thus far, by God's gracious mercy, on our way homeward. We left Turin and crossed Mont Cenis, happily without difficulty, and got to Lyons this morning. Poor dear mamma is very much fatigued, as well as myself. The fatigue of the diligences is quite indescribable. We would neither of us have missed seeing the *glorious* scenery —this marvellously grand chain of the Alps, covered with snow, and from 9,000 to 10,000 feet high—for anything; then the Grande Chartreuse and the tunnel now being cut on the road to Piedmont; but the indescribably beautiful mountain scenery of Piedmont—no painter could paint it, no pen describe it.

'Turin is a wonderfully pretty and beautifully built city, like Brussels, but far finer in every way, surrounded by gardens and vineyards. I have done all I had to do at General Dufour's, and with the Bureau Topographique Militaire at Turin, with which I have established the best friendly official relations.

'I am weak and but poorly, and mamma is wearied out with caring for me. . . . God Almighty bless you both.'

23954

CHAPTER VI.

ON THE FRAME OF MIND IN WHICH SCIENCE SHOULD BE TAKEN UP, AND THE SUBLIME TEACHINGS OF ASTRONOMY—THE IMMENSURABLE DELIGHT AND INSTRUCTION WHICH IT AFFORDS.

'The very law that moulds a tear,
And bids it trickle from its source,
That law maintains the earth a sphere,
And guides the planets in their course.'

NOTES OF AN INTRODUCTORY LECTURE ON ASTRONOMY, DELIVERED BY MAJOR JERVIS IN LONDON IN 1844.

ALL investigations which have not some specific and practical end in view are worse than useless, and calculated to do great mischief and dishonour to the cause of truth; for which it is, indeed, that science is often disparaged by those who gladly avail themselves of its important results, and thereby consent to the value of a testimony, inferior only in degree to Revelation, that the entire universe bespeaks in its material existence the power, the wisdom, and goodness of one only Creator, whose dearest attribute of love is immediately communicated by the Holy Spirit. This, therefore, is an important preliminary question. The practical purpose of all inquiries, if only to indulge idle curiosity, if only to foster pride or raise objections to spiritual truth, to gratify vanity and imaginative speculation—is lost. It may be possible for men to deceive themselves, and in many instances

to deceive and mislead others; but truth, the basis of all science and all knowledge, moral or spiritual, will outlive all this, and triumph over every concealment and evasion.

'But there are some pursuits which at the first blush have no such apparent object, either from their indeterminate vastness or seeming insignificance. Happily, there are such diversities of taste and capacities that the meanest understanding may find something for consideration and praise; the highest powers find more than enough to call forth the admiration and reasoning faculties, and sooner or later men discover a fitness for one or other, which grows into habit, and enables them to apply everything they see and hear and experience according to the spirit by which they are led, either of an honest, sound, and holy mind, to the discovery of God's works and ways, or in the perversity of a distempered and depraved will, to the denial of His supremacy, interference, and mercy.

'Thus, then, we perceive, the legitimate object and scope of science, the investigation of truth in the natural world, in subservience to the explanation of those facts with which we could never otherwise become acquainted but through the medium of Revelation. But there are very few persons who rightly understand the difficulties which attend a system of mere natural religion, too many overlook its intimate and necessary connection with revealed religion. These often adduce the former as a sufficient rule for the conduct of life, and a perfect expression of the Divine character, independent of any better guide than the fallible powers of human reason. It is not until we come to generalize the phenomena of Nature that we are fully enabled to appreciate the futility of such views. The more extensively we inquire, the more complex are the questions which arise, the more surprising and irreconcilable the conclusions appear. Faith meanwhile points benignantly to an ancient and simple record, which proposes a solution, a solution no less difficult to be apprehended than the fact itself under consideration, but, for all

that, not the less true. Take, for example, these three great instances: the existence of infinite planetary systems and worlds; the apparently irreconcilable phenomena of geology, and the disposition of strata and fossils in our own planet; and, lastly, the remarkable diversities in the human race. Why, here are three things which to all rational evidence wholly overpass the capacity of the greatest wisdom and research to explain. Still, faith says, "This may be strange," but it is by faith we believe the Scriptural account, which, so far as it is communicated, is the true and only explanation—a faith which some must take altogether upon trust, a faith which, *in a certain measure*, may be cleared up by others by diligent observation and patient study, to be consummated in a more exact and complete knowledge *hereafter*.

'The mind of man is at best very slow in attaining to any exact acquaintance with the objects that come under his observation, or in arriving at any new truths. It is therefore a matter of particular moment, in the search after knowledge, to be set in the right way of economizing time and labour, to know the methods which others have employed who have been most successful in their pursuits, and then to select and substantiate material and useful subjects, to the exclusion of whatever is trifling or purely speculative. In some cases we have only the evidence of testimony, which is all the light we can hope for; but in regard to the physical facts and appearance of things around us, we have an amazing variety of subjects to exercise the intellectual faculty, which are capable of being tested by the strictest rules of analogy or comparison. The value of such analogy rests wholly on this one consideration—the perfection, and wisdom, and goodness of their Author. It is usual to speak of all such works as expressing the attributes of God. The very philosopher whose thoughts are engrossed by the observation of these laws may object as he pleases to the mixing up of religious views with the pursuits of science; he nevertheless forcedly, or rather, I would say, avowedly,

proceeds on the supposition that nothing can fall out without some fixed design, or order, or consequence, and thus he has fully made up his mind to conclude the fixity of such consequences from the unchangeable nature of their Divine Author. This is the amount of our assurance, in respect of the great volume of creation; but in regard to the records of Scripture, we have a far higher and more complete attestation, the attestation of the Author of all truth, as well as the existence of the matters under consideration; and thus we see how legitimately science is connected with religious truth, and is, in its degree and nature, an essential step to Christian knowledge. Analogy is the great measure or rule of assent to the probability of every physical truth, the only help, in fact, to which we can have recourse for the explanation of all the appearances, changes, circumstances, and laws everywhere existing throughout the universe.

'Thus, finding in all parts of the creation that there is also a perceptible relationship, or dependent connection of one with another, and that the links in every case are so delicate that all seem to pass off by an undefinable transition, and leave it as a question of no little difficulty to decide where one begins and where another terminates, we conclude, notwithstanding, that by such gentle, imperceptible steps all things ascend upwards in successive degrees of perfection.

'Thus, to take a familiar illustration, we observe that the rubbing of two bodies violently against each other produces light, and heat, and fire, or electricity. We infer by analogy that these—light, and heat, and fire—consist in the agitation of the particles of a latent fluid, whether it be caloric or aught else; the connection in such cases is plainly recognised in the results. And so also the different refractions of pellucid bodies produce on the retina those remarkable appearances of colour.; thus the interposition of several such bodies as velvet, watered silk, etc., manifests nothing more than the successive emission of the rays of light, according to the

various proportion the colour of each occupies in the prismatic spectrum.

'In all these details of science and every object cognizable by our senses we reason from analogy; but the testimony of Revelation challenges a far higher degree of assent, because altogether independent of those sources of error which lie in our own deficiencies of intellect or capacities of observation, and because these emanate from Him who cannot deceive or be deceived. This knowledge has in it, even in respect of matters of pure faith, all the fulness of assurance, and admits of no doubt whatever. Its proper and essential title is Revelation; our assent to it is faith, a grace, or gift, to the possession of which of ourselves we could never attain, and therefore in the highest degree to be distinguished and appreciated above all the gifts of our munificent Creator.

'See, then, by what a regular gradation the mind is led on from one truth to another, and the connection between them all shown to be an essential process in the training of the soul to Christian excellence. In omitting any one link in the great chain of conclusions on which the simplest understanding is called to pass an opinion, the entire fabric of truth is endangered, and *speculation takes the place of the sober realities which result from referring them, religion and science, to one only Author and Original.*

'There is an equal necessity also in the care of means to select the shortest and most approved systems of investigating these facts, and in this we are best enabled to discern what sciences are entitled to the character of hypothetical, what positive and real. Such as rest on well-established facts are studied to most advantage by proceeding from general to particular truths, those of a purely speculative kind by the reverse method.

'In a natural system of classification of certain departments of science, for example, we recognise two diametrically opposite methods of discussion, proceeding from the most

simple to the most comprehensive views. In botany, from those that are least to those that are most developed; in chronological inquiries, as Dodwell and Newton have fully explained, from certain fixed epochs to those which are uncertain—from the centre, as it were, to the circumference—and in every case from that which is most intelligible and general to the particular and fuller details, till we have built up the great superstructure of inductive knowledge on this ample base. To this method astronomy is peculiarly indebted for its advancement above every other science.

'The science of astronomy thus offers to our contemplation some of the most powerful efforts of the human mind, and is the most remarkable history extant of our physical and intellectual nature. Separate this pursuit from religion as you will, it affords so unequivocal and interesting evidences of the shortsightedness, imperfections, and nothingness of the creature—such large and unanswerable statements of the power, eternity, majesty, and every great and glorious attribute of God—that it demands a far larger assent than can be claimed by any other. No subject has supplied matters so rich in interest and philosophical truth as the structure of the universe, and no investigation is more instructive than that which explores the methods employed by Creative wisdom in the admirable scheme of Providence for continuing and regulating the motions of the heavenly bodies, and at the same time affording sustenance for the respective inferior species of organic beings, however numerous or however different. We need not be surprised that men have frequently indulged in extravagant expressions of admiration when contemplating the heavens, who yet have had very imperfect conceptions of the methods—those second causes—by which the great Being who made them upholds them all by the word of His power, maintaining, as is evident to the practical astronomer, and regulating our own planetary system precisely in the same way as that of all the heavenly bodies, in one consistent plan. They

are, indeed, persuaded that He created them for wise and benevolent purposes, but, with respect to the globe even which they inhabit, they frequently have but little acquaintance with the simple means employed to produce the periodical succession of day and night, of summer and winter, the changes of temperature, and succession of crops, that administer to the wants and comforts of man.

'Yet they perceive that the genial rays of the sun are variously distributed over the surface of the globe which is intended for man's temporary habitation, and they acknowledge the bounty of a Divine providence in His making the different climates co-operate in the production of food for the inhabitants. Now, it is the business of practical astronomy to examine and explain all these phenomena, which excite the wonder of the untutored mind, and to satisfy the dubious and speculative what are the deductions of sound philosophy and mathematical analysis, gradually advanced and matured on such intelligible and certain principles.

'In going carefully over the records of successive inventions, we cannot help remarking how much they have contributed to the promotion of sobriety, and the overthrow of that credulity and speculation which are manifestly so destructive of the reasoning faculty, inasmuch as they have led to the increased attention and greater accuracy in making and reducing the various observations. In no other branch of natural or experimental philosophy, in no mechanism of human contrivance and accomplishment, is so much ingenuity displayed as in the construction of modern astronomical instruments. The telescope, penetrating beyond the ordinary limits of space, presents to the human eye objects concerning the very existence of which we must otherwise have remained in utter ignorance; the microscope enlarges and subdivides quantities so small that a large fractional part of them could never have been appreciated by the human eye unassisted. The limbs of all

those instruments usually employed in navigation, and surveying, and astronomical pursuits, have been graduated and subdivided with such minuteness and precision, and, at the same time, with such distinctness and accuracy, that the delicacy and equal distances of the dividing strokes can only be rendered visible by means of powerful optical contrivances. The micrometers that measure angular distances too diminutive to be referred to a divided limb are thus brought to a degree of excellence that would astonish those who have not turned their attention to such matters. Take, for instance, a number of instruments constructed by different makers in Germany, France, Italy, or Britain: you shall find that all these, though different in principle, as well as dissimilar in construction, concur in effecting the same results, angular distances or altitudes agreeing in every respect. To substantiate all such principles, again, the mechanical construction has been made to depend upon strict geometrical principles, and every care is taken to ensure fidelity and authenticity in the record of such experiments.

'Thus much, therefore, for the means available in ascertaining the nature, distances, and places of those bright and beautiful objects which so conspicuously testify to the power of God. Here, as in a vast laboratory, the reflecting mind is led to the profusion of objects variously impelled and directed, moving with prodigious velocity, yet with so much regularity, and, so to speak, so noiselessly and uninterruptedly, that the first impression is usually that of calm, undisturbed security, the very frame of mind best suited to the contemplation of what is before it. Grand and vast as is the view of the heavens on a still, clear night, it is spread out in such simplicity of character, the visual powers so admirably adjusted to remote objects, that the ray of light coming from a body situated many millions of millions of miles distant is as easily and perfectly conveyed to the retina as in the case of any material object close at hand; and yet we judge to a certain extent of the distance of the more

remote independently of motion, and the most untutored person pronounces such distances to exceed any quantity definable by the usual methods in regard to things near at hand. Is this measure, then, attainable by the help of instruments? and is the mathematician enabled to determine positively the velocity from the figure and position of each? and by what methods? To all which we answer in the affirmative, an assertion that might, if hastily taken up, lead many into the common prejudice that such knowledge is far more likely to draw the mind away from God, to engender a presumptuous and self-complacent spirit, than to promote a quiet, teachable and humble frame. And for the methods, it is sufficient to say that they depend so entirely on the degree of self-control, habit, attention, and patience, that every other adventitious help is as nothing compared to them. Only look at the greatest of modern astronomers, the late Sir William Herschel; look at his sister. I choose these out of all the instances that might be proposed, of the means every one of us possesses within ourselves, of a purely physical and moral kind, of acquiring a knowledge of astronomy, independent of other instruction or rules. The same in a higher degree, as it respects mathematics and philosophical thought, was exhibited in the researches of Kepler and Galileo. To see what is before us is our privilege; to wait, and watch, and consider it is the first step to science, and is an exercise that is eminently calculated to prepare the temper for every other study and occupation.

'In adverting to the names of Kepler, Galileo, and Newton, we sum up the names of the most able advocates of the Copernican or Pythagorean school: Bradley, Sir W. Herschel, and Bessel rank highest as observers; Euler, Laplace, and Ivory are the most distinguished mathematicians. It is hard to speak of the mechanicians without doing injustice to one or the other, pre-eminently skilled in some one or the other branch. Dolland in England, Lenoir in France, Frauenhofer, Ertel, and Reichenbach in Germany,

and Amici in Italy, have done wonders for the instrumental helps to astronomy. Copernicus, by the discovery of the motion of the planets about the sun; Kepler, by his elliptical theory, and the laws regulating their respective motions and distances, with the times of their periodical revolutions; Galileo, by the discoveries of the satellites of Jupiter and the phases of Venus; finally, our own Newton, by the discovery of the theory of gravity, opened the way for all those improvements which have been made upon the more ancient principles of astronomical science. Since the publication of their labours the process of discovery has advanced with unexampled activity, and a mass of facts been obtained of such value, that, if all the previous observations, even to the most remote antiquity, were lost, there would still remain such a collection of data as would more than compensate for the shortness of the elapsed interval by their extreme accuracy. Bradley commenced the career of modern improvement, and stands forward as the most indefatigable and skilful of the astronomers of the last century. To him we are indebted for much of the skill and accuracy since exhibited in our observatories. The attention which he paid to the most minute changes of places in the heavenly bodies, and which had led to so many contradictory theories, were crowned with the most brilliant success. The aberration of light and the nutation of the earth's axis will ever distinguish him as worthy of a place in the same rank with Hipparchus and Tycho. His observations of 389 stars were not published till half a century after they were completed, by the University of Oxford, into whose hands they were committed by Lord North, then Chancellor of the University, a fact sufficiently proving how little interested the country then was in matters of science compared with other States of Europe. A further catalogue of 3,222 fixed stars, and of 48 stars now missing, are curious proofs of the veracity and accuracy on the one hand of the observer, and the mathematical skill of those who reduced these observations.

'The planet Uranus, or Herschel, was discovered by Bradley on December 3, 1783, and marked as a fixed star, without the least suspicion of its being a planet, he being less fortunate than Miss Caroline Herschel, who, about thirty years after, by repeating her observations on successive nights, detected its planetary nature by the change of place.

'In the reduction of Bradley's observations, Bessel directs our attention to the double stars, which indicate a mutual attraction between each other, and a revolution about their common centre of gravity, thus establishing the unity of principle throughout the entire system of the universe. This is most particularly the case with that most remarkable star 61 Cygni, of which Bessel has since obtained a sensible measure of parallax, and which performs its revolution in 540 years. In passing, we may state the curious fact that the most exact observations have been made under the most unfavourable circumstances, and one of the very best observatories, that of Dorpat, in the same parallel with the cold regions of Siberia, has produced work which does honour to Struve, the illustrious director.

'The task of making improvements in the instruments and methods of observing, which began with Dr. Bradley, has been continued uninterruptedly with such success that an astronomer could now predict with unhesitating certainty for centuries to come the precise moment of the passage of any of the planetary bodies over the meridian wire of the telescope with such a degree of accuracy that the error would not be so great as to remove the object through an angular space corresponding to the semi-diameter of the finest wire that could be made; and in this triumph the mutual co-operation of the artist in the perfection of his instruments, the astronomer by his observations, and the mathematician by his analysis, shows the advantage of mutual assistance, the distribution of gifts and powers, mental as well as physical, and their dependence

on each other. That which Bradley proved experimentally the genius of D'Alembert demonstrated mathematically, and showed at the same time that the apparent motion of the pole of the earth was not in a circle, as Bradley had supposed, but, in strict accordance with the view of Kepler, in an ellipse of considerable eccentricity.

'Many instances of a similar nature have occurred during the last century, and it has almost always happened that the English have furnished the best artists, the best instruments, the best practical astronomers, and the best observations, except in the case of the four small planets,* while in all those questions of metaphysics or analysis our Continental neighbours, the French and Germans, have deduced conclusions of the highest interest and utility. This superiority of English artistical skill is invariably admitted by all foreigners, though, strange to say, it is least acknowledged or appreciated in this country. The observatories of every foreign State are supplied from this country, and no limit set to the price for the performances which do us so much honour. Our own Government, and the British public generally, neither sympathize with each other, nor regard the consequences of exact observations, as the illustrious patrons of science in foreign lands. Ramsden became possessed of a part of the patent right of his father-in-law Dolland for the manufacture of achromatic telescopes, an improvement which it is but just to acknowledge was due to the sagacity of Euler, who suggested the method of correcting the coloured images of telescopes. Reichenbach also in a like manner executed the instruments on the suggestion of Borda; and while all these masterpieces of ingenuity have effected wonders in this grand science, it is not the least remarkable part that the respective artists have rarely attempted to bring each other's to a like degree of perfection, though possessed of every presumable facility for

* It is known by all that the number of asteroids since discovered is very considerable, and is being continually increased.—ED.

doing so. The habits of the people and the artists are manifestly dissimilar, and these pictures of the mind, carried out into the practice of the laboratory, indicate distinct powers and faculties, indefinitely and most curiously varied, still further attesting our mutual dependence on each other, and the advantage of co-operation. Sir W. Herschel's reflecting telescopes are of so deserved reputation for their power that we are largely indebted to the magnifying power of these instruments, the satellites of Uranus, or Herschel, being rarely visible with any other instrument.*

'These were among the fruits of the Reformation in Europe, when the spirit of Christian liberty planted his standard in the North, and gave that impulse to the mind of Europe which fostered the genius of those great men, Copernicus, Kepler, and Newton. The same contemplation of truth, in all its reality and excellence, animated Galileo, and confirmed Bacon in the certainty and superiority of inductive science, which led others, under the guidance of God's Holy Spirit and teaching, to understand the purposes and character of His revealed will. Silently, steadily, progressively, intellectual knowledge has been advanced, and we hope also that which more nearly and essentially concerns our eternal interests—these are inseparable consequences.

'The luminaries we see scattered over the expanse of the heavens were long supposed, and, indeed, still are imagined by the great majority of mankind, to be fixed; but the telescope has revealed the fact that many are, and with a strong degree of probability, indeed, the whole, in a constant state of motion, carried round a remote common centre, to which we may, perhaps, at a very distant period be able to refer them with greater certainty. With the naked eye we are enabled on a clear starry night to count from 4,000 to 5,000. But as every new improvement of the telescope brings a countless addition of a multitude of

* Since the above was stated Lord Rosse's grand telescope, that of the Lick and Chicago Observatories, and others, have been erected.—ED.

stars which had never before been seen by human eye, it is quite impossible to state how many there may be yet unknown to us. This instrument—discovered by a mere accidental arrangement—brought to light some objects which it was not possible to have imagined. Upwards of 3,000 of the stars are double, and are found to move round each other in orbits requiring long periods of time: the double star Castor in 253 years; δ Serpentis in 375 years; γ Virginis in 629; ε Bootis in 1,600 years; γ Leonis in 1,200 years; and ϛ Lyræ in 1,108. Yet, as if these were not enough to reward discovery, we find still more remarkable combinations; σ Orionis, for instance, was found in Mr. Barlow's fluid reflecting telescope to consist of two quadruple sets, with two very fine stars between them, which, as well as the fourth star in each set, had previously escaped the powers of the most finished instruments. Mr. Barlow's telescope resolved the star η Persei, which in the earlier catalogues had been marked as a double star, into a collection of six. Nor is it improbable that the beautiful and grand instrument now in course of completion under the munificent friend of astronomy, Lord Rosse, will resolve all those nebulæ which present nothing but a mild and general appearance of light, with or without other stars.* Such systems as these, in which long periods of time are brought under consideration, are calculated to produce a deep conviction of the infinitely small speck of time which our existence occupies in those ages in which such bodies revolve; they afford us the first feeble conceptions of that eternity of which we are more particularly informed in revelation.

'From the analogies discoverable between our own system and that of other double, triple, and multiple stars, we cannot conceive that these revolve round each without some certain purpose, or that any of them shed their light in vain;

* Such and many other results have been long ago achieved by means of that and other powerful telescopes already set up.—ED.

and the very distances at which they are separated from each other, probably in no case shorter than that of the planet Uranus from the sun, 1,800 millions of miles, joined to the fact of their being opaque bodies, bespeak the probability of their being attended with their respective planets, satellites, and comets, which are hidden from mortal gaze by their vast distances, comparative minuteness, and the splendour of their great primaries. Considering the possibility of such a multitude of systems, and each occupied by its proper intelligent beings, the very contemplation overwhelms the mind and annihilates imagination of self-complacency. What must be the power of the Author of such works? What must be the condescending goodness of God to give us any, the least thought? What must be the nature of sin, that in all that wide range such an occasion should draw out the love of God's dear and only Son, to expiate it by His death on the Cross? Here are two subjects to examine, faith and wisdom, concurring to show how little philosophic minds know of the material things of creation. How infinitely they exceed our utmost stretch of capacity and thought! and yet how far short every material fact falls of that which is spiritual! If we can conceive any limit to the one, we may audaciously set a limit to the other.

'The distance also of these bodies, so far as we can depend on the quantities determined instrumentally with the position micrometer, is such as to pass our apprehension. The only means we have of ascertaining it is by measuring the circumference described by the earth in its annual course round the sun, and assuming the diameter as the base of a triangle; yet this, which is 190,000,000 of miles, scarcely affords us an appreciable value of the distance of the very nearest. The distance of α Lyræ, which thus subtends an angle of 1.1″, is upwards of 20 billions 160 millions of miles, and if any faith should be placed in the observations of Sir W. Herschel, its diameter is 2,659,000 miles —a magnitude little short of that of the entire solar system.

'As a further help to our conception of their vast distances, the ray of light which has left these luminaries—swiftly as light is known to travel, 190,000 miles in a second—must have left some hundred years ago, and although *we* see these bodies unattended with others, the entire solar system, with all its planets and satellites, would present but one single spot, and the whole be covered *there*, as in the case of Sirius viewed through a telescope *here*, by a single spider's web. The very annihilation of such a system would, as to its actual consequence, in the countless systems of worlds and suns, be perfectly immaterial to any but Him who is essential love and goodness. Wherever He works, this watchful Guardian and Lord and Preserver is seen, every vestige is indicative of every possible attribute of excellence and majesty, and every discovery raises the mind in devout adoration of His care and love to us.

'There are a multitude of curious particulars besides these in the appearance and disappearance of stars, their increase and wane in splendour, their variable character, and colour and luminousness. β Persei, for instance, is visible for sixty-two hours, is reduced to a star of fourth magnitude in two or three hours, then increases again, and in three and a half hours more resumes its former lustre. The star Omicron Cetei appears about a dozen times in eleven years, appears brightest once a fortnight, then diminishes gradually during three months, and disappears altogether for five months, when it gradually returns to its original state of luminosity in the course of the three successive months.

'To what, it may be asked, do astronomers attribute such periodical changes? It is generally supposed to be some opaque body revolving round it, as any of our planets round the sun, which thus intercepts a portion of its light; and several other stars exhibit analogous phenomena at different intervals, 500 years or more. These considerations, and the simple reflection that the light with which we see them now shine emanated some centuries back, may

furnish us with clearer conceptions of the great Being who directs and disposes them all according to His will, while it must affect us equally to reflect that the very thought we send forth is propagated with an infinitely greater rapidity over all the realms of space.

'How cautious should we be to regulate those thoughts! Babbage, in his ninth Bridgewater treatise, has said of sound that, although inaudible, it is carried by successive undulations in circles gradually extending further through all eternity—never lost, though gradually expanding. A very intelligent lady upon one occasion observed to me how dreadful this view of the subject was. I was startled at the manner in which she spoke, and inquired in what respect. Her reply was: "A lie, an uncharitable or unholy word uttered by my tongue, must in that case be wandering through all time and extending eternally also." Yet what is this to thought, which at our bidding is in the utmost quarters of space, in defiance too often of the great Lord and Maker of all?'

The beautiful sentiments expressed in this lecture need no excuse on the part of the Editor for having perpetuated them, although historical names and facts, familiar to many readers, may be brought forward. The sun of Science is already fairly above the horizon; but while dazzled by its beneficent beams, shall we grudge a ray falling to light up the monuments built by our fathers, on whom the light fell more obliquely, on hearing once more their honoured names? We confidently hope that posterity may act likewise towards us, though they will see far plainer than we do.

CHAPTER VII.

RESPONSIBILITY OF BRITISH CHRISTIANS TO DIFFUSE THE SOURCE OF COMFORT AMONG SOLDIERS AND SAILORS, AND AMONG OUR INDIAN FELLOW-SUBJECTS—FEMALE EDUCATION IN INDIA.

'Shall we, whose souls are lighted
With wisdom from on high,
Shall we to men benighted
The lamp of life deny?
Salvation! oh, salvation!
The joyful sound proclaim,
Till earth's remotest nation
Hath learnt Messiah's name.'

HEBER.

AT the anniversary meeting of the Bombay Branch Society of the British and Foreign Bible Society, held on January 21, 1841, Major Jervis made an address, in which he said, with a holy fire:

'Many persons, probably, of those assembled on this interesting occasion, could speak more to the purpose if they would, though I feel persuaded there are none who feel more intense concern in the promotion of the object for which we are now met than the party who now addresses you. It has exercised understandings of no ordinary power; it has called forth resources of no unimpassioned eloquence; it has elicited appeals of no commonplace tenderness, and therefore might be supposed to have left little for us, for any, to expatiate on, which has not been already far better

told by others. But no—that theme, inexhaustible as the praise of Him with whom it originates—the Word of God still retains all the freshness of its first dictation, and will continue to hang on the dying lips of every follower of the Redeemer, to be resumed only with more exalted emotions of delight, in other, happier realms, where sin and death shall cease to afflict and affect us.

'I have heard it asserted by competent Orientalists, and I believe with truth, that Asiatics have no term to express *gratitude*, and I have listened and smiled at the complacency with which some of my own countrymen, who were deeply skilled in foreign languages, dilated on the privileges of that peculiar *comfort* which we Britons perhaps understand more thoroughly than any other nation, but for which none, not excepting our most accomplished Continental neighbours, the French, have any corresponding term, or even idea. Is it that we are really the only grateful people? or is it that we alone know how to use, to appreciate, and to signify our sense of the blessings conferred on us? Is it that we alone, of all the nations of the earth, have discovered the true Source of all those blessings, and the proper language in which our wondrous obligations are to be communicated to our fellow-men, and wafted with joyous hallelujahs to their Author? Oh sacred, beloved treasure, whence we derive the first cognizance of ourselves and the great Giver of all! Oh rich fountain, whence flows all our comforts; the true spring of all our knowledge; the proper effectual remedy for all our necessities and distresses; the golden link in that chain of love which binds each one of us to his neighbour, a worm of the dust to infinite Deity, and God to man! What do we not owe to Thee?

'Let us severally advert to our individual position in society, in the world, in the countless throng of beings, in all the ages of time, standing in the presence of Him with whom a thousand years are but as a day—that great and good Being, who is, emphatically, "the same yesterday, and to-day,

and for ever." Let us remember our own place among our fellow-men. Let us consider our mutual relation to, and dependence on, others, whose privileges are no less than our own. Let us reflect on the part we are called on to take in the great scheme of social duty and responsibility—on the station we occupy, as rulers or subjects, as masters or servants, as dispensers as well as recipients of the Divine goodness, as teachers and expounders, as well as scholars and hearers of the glad tidings of the Gospel: what are not our individual obligations?

'Yet greater, if I may be permitted so to speak, infinitely greater, are those obligations which we should ascribe to that Word collectively, as a people, entrusted, as Britain is, with so large a share in the administrative functions of sovereignty throughout the earth. If such be our influence over the Cabinets of other European Powers—confederate only for selfish aggrandizement, and the destruction or restriction of liberty; if such be our command in questions affecting the eventual condition of the entire human race that legislators defer to us for the first initiative; if such be the consequence of our national counsels, that upon them, as a first move, depend the issues of that last and decisive development of political combination for the universal diffusion of Divine truth, or the antagonist principles of idolatry, superstition, and atheism; what do we not owe to this sacred volume, which brings us together, which directs and warms our hearts, and gives unison to all that deserves a record in the annals of history?

'In this or in that view of the subject—as individuals, as members of society, as a people—any tongue would fail to express how much we are indebted to the first principles of our religion for every advantage we possess in this and for all time to come. Whether it be the submission of self-will or intellect to the milder dictates of order and humility—whether it be the deference of passion or power to the calmer injunctions of reason and authority—*these are* the

genuine characteristics of its teaching, and such the master-key to that striking superiority which we possess in all matters of this present existence. It belongs to the beloved messengers of the Gospel to tell of its subserviency to greater ends, and the records of that great Exemplar who consummated His pity to an undeserving world by a sacrifice unparalleled, inappreciably great and affecting, and therefore immeasurably beyond the reach of the most unbounded *gratitude*. Who but the Holy Spirit could enable us to derive true *comfort* from this, so stupendous an effort of love and condescension? Yet the Divine Word permits us properly to understand and fully to express it; and here alone the ideas of *gratitude* and *comfort* find an unequivocal intelligible representation. Would that we all realized in our hearts, and, with its great Author, deferred every personal consideration to the constraining duty we are under, to go and proclaim its cheering purport to every soul around us!

'A missionary! Oh, I have heard *that name* pronounced with scorn, and by female lips. Yet who is under more signal obligation to such a character than woman, or what members of society are so elevated by Christianity as British females? Yes, He, that dear Friend and Saviour, who sticketh closer than a brother, was the first of that denomination. He came from His Father's throne to this lower world on a mission of love and mercy, breathing nothing but charity and goodwill to those who neither knew nor regarded Him, and He still entreats us to hear Him and live. Can any treat His humble emissaries with aught but respect? They may err, they may faint, they may perish; but their Master lives for ever, and, so long as eternity shall endure, His praise will be sung by them, as by the myriads rescued, in His gracious purposes, from the depths of iniquity and destruction, while the angels respond to them with never-ending adoration.

'But whilst we know whence our benefits accrue to us,

individually and collectively, we overlook the mighty spring of all our *comfort*, and all that distinguishes and adorns the Christian character, preferring to fall down and worship at the feet of that mighty image, Self, whose head is Mammon, and whose feet stand on a perishing world—that delusive idol which the prince of this world lifts up to the admiring gaze of his unhappy devotees—and this is our *gratitude*. While such are the lessons inculcated by Scripture—obedience to authority, love and charity to all, simplicity, disinterestedly sympathizing in all the necessities and sorrows of our fellow-creatures, after the pattern of Him who felt and suffered in all points like ourselves—we deprecate its introduction as a means of education, and go to the muddy pools of men's understanding, choosing rather to be dictated to by the world than by the Author of all truth and all reason. Such inexplicable folly can only find excuse in ignorance, and the aversion of our nature to that sacred truth which admits of no compromise. Those, then, who plead for the exclusion of Scripture may be said, in the fulness of their *gratitude*, to deprive their neighbour of the only solid *comfort* which can enlighten the untutored mind, soothe the pressure of present affliction, or bear up his spirit in the last closing trial of mortality—a resource which, rightly applied, will bring him through all the difficulties of his present existence, till hope shall be changed into reality, and the faith of the believer be made perfect in fruition.'

The sixty-fourth anniversary meeting of the Naval and Military Bible Society was held at the Hanover Square Rooms, London, on May 4, 1844, under the presidency of the Marquis of Cholmondeley, and on that occasion Major Jervis said:

'I feel proud to be called upon, on any occasion, to speak for the profession to which I belong, and also for that great and noble cause in behalf of which we are assembled to-day. To appreciate the value of such an institution as this, we should look-over the histories of those countries in which

war has been carried on—war in which excesses most cruel and tremendous were committed, and every outrage perpetrated that disgrace human nature. The influence of the Holy Book which this Society circulates will both modify the horrors of war and improve the character of our soldiers and seamen. My noble relative, Earl St. Vincent, was instrumental in upholding those great principles for which this Society contends, by introducing sound and judicious views of mutual co-operation for the extension of education and Christian instruction in the navy, and that at a period when very different views had been taken of this important subject. The firm resistance of Earl St. Vincent to Papal tyranny was the means of rescuing this country from the vassalage of a foreign State; he discouraged every form of immorality, acting upon the principles of that Gospel which this Society seeks to impart to our fellow-men. Upon every occasion I have found the Christian soldier the bravest soldier, ever ready to lay down his life in his duty, and to carry out the precept: "Do violence to no man, and be content with your wages." Had there been any design in God's providence that the profession should be disallowed, it would then have been intimated to us, especially upon the occasion when those words were uttered. But so long as this world continues under its present constitution, and human passions remain uncontrolled, there must be some kind of discipline to keep order; rulers, however, are not a terror to the good, but to the evil. Some persons deny the necessity of a fleet and standing army. Judging from our own and foreign countries, we should find a body of police ten times more burdensome and obnoxious: for all the purposes of order, I question much whether they were not more difficult to be dealt with than a body of the navy or the military. The great and only question is whether an oath of allegiance, taken under the colours, is more binding than a civil agreement—whether the mutual attachment of men and officers is not calculated to do more service to the com-

munity—when such attachment is founded upon the word and authoritative command of God.

'Teach the soldier and the sailor to love and fear God, to obey and honour the commandments of His dear Son, and you at once raise his character, and assure his attachment to the true dictates of liberty and obedience and order. During my servitude abroad I have come into contact with many Jewish soldiers. God's ancient people, now as of old, showed that they studied the Word of God, and were noted for their bravery. In all the army of India the bravest soldiers were the Jews, though they were few in number. Their conduct, also, was highly respectable and moral. The Mohammedan soldier, in a like spirit, read the Korán; its precepts were his watchword and war-cry:—were such means to be used by Satan and neglected by the Christian? Never was anything ordained for the good of man that Satan did not pervert. Point out the necessity of education, and Satan immediately steps forward with a new mode, palatable to us poor blind beings; and a code is set up, declaring that the Bible forms no part of education, but that it should be imparted by other means and by other principles. The Word of God, it would seem, was to be read by all men, except Christian soldiers and sailors, because it has been abased to purposes totally opposite to those for which it was designed by false teachers or false systems. The Papists object to the circulation of the Scriptures. We should show them that we are a Protestant Church, and send forth the Word of God to fortify our seamen and soldiers against the artifices of the emissaries of Popery. Many of our poor soldiers fall into the deepest and darkest heathenism. Who is answerable for this? We. They are our brethren, whom God has commanded us to love. They are the men who have fought our battles, and this is the return we make! The statement of Messrs. Fletcher and Piggot shows what the state of society is in India in the absence of the Word of God. Yet when visited daily, and

informed of the contents of the Word of God, these men exhibited an anxiety to turn from the error of their ways. Often have I seen my countrymen lying down in a state of intoxication, or heard them make use of language which they would not have done had they known the Word of God; some were lost to shame in every walk in life. But were I to point out the men who had most moral nerve, and conscientiously discharged their duty, I should refer to those who were attentive to their calling and morals, and all that was appointed to them. These were Christians—men who had become acquainted, in some measure at least, with the principles of the Bible. The 26th Regiment, headed by General Oglander, a noble Christian himself, was a regiment the most distinguished in India for sober, moral, and brave men. More than twenty of the men had received medals for good conduct, and there never were throughout all India better-conducted women attached to a regiment than those belonging to that. Now, all this had been accomplished through the instrumentality of the Word of God. How did they behave in China? Though aggrieved, insulted, and troubled, as I know they were from what has been told me by a noble lord who was present at the time, there was not a more temperate and forbearing set of men. I could speak of other noble examples. The late Captain Oakley was nearly twenty-two years in a regiment highly distinguished in the Peninsula, St. Helena, and India; beloved by the men, women, and children of that regiment, he constantly attended to their education and the reading of the Scriptures with them. During the Peninsular War his regiment went through some most trying scenes, and evinced throughout a conduct resulting from a knowledge of the Scriptures and confidence in God alone. Bravery consists, not in the reckless spirit of the men of the world, but in that calm, collected, abiding trust which looks earnestly and simply to the Saviour as the Captain of salvation. Such men knew no fear. We should remember

the words of Lord Ashley when he went into the thick of the battle: "Lord, if I forget Thee, forget Thou not me." Again, the Christian soldier is always found respectful, loyal, just, true, punctual, dutiful, and obedient. I urge those around me to co-operation. Each of us can assist in diffusing that great blessing, the Bible. Without it what would this country be? With it, how sad is its state! The difference between that part of the population who read and revere the Scriptures and that which does not is apparent to all, nor could it escape the attention of the Government. The authorities and State would be the first to feel the effects of the withdrawal of the Scriptures from the people. Every attempt to discountenance the distribution, use, and knowledge of the Word of God amongst our brave soldiers and sailors is an indirect abetment of the Papal tyranny and objects, and the surest method to bring about those evils which are so much dreaded from the abuse of this necessary and honourable profession.'

Another instance of Major Jervis's intense interest in the true welfare of the population of India may be seen from an address he delivered at a public meeting convened at Exeter Hall, London, on February 27, 1844, by the Ladies' Association of the Free Church of Scotland in aid of the cause of female education in Asia, and the general objects of the missions to the Jews and heathen, when he said:

'It would ill become me, after the ample and explanatory statements of my friend, the Rev. Dr. Wilson, to enter upon any of those topics which he has set before you with so much ability, seeing the high advantages which this eminent Oriental scholar and Christian minister possesses, of experience and personal intercourse with the natives of the East. It is, therefore, my desire rather to speak on the general question of female education and the subject of missions, if, under God's teaching, I may have been led in the course of my life to an acquaintance with any circumstance deserving of particular consideration, and worthy to

be borne in mind by any of these persons whom I have now the privilege of addressing.

'For nearly thirty years resident in India, and connected in my official relations with persons of different tempers and opinions, not, as may be supposed, equally affected to the cause of religious truth, I was necessarily brought to see, as an impartial layman, the general operation of missions, and the estimate which the Government, the functionaries of the State, and all classes, of whatever distinction or sect, formed of the missionaries themselves. Such testimony, coming from a quarter subject to no bias, is incalculably more satisfactory than that of men who have decidedly made up their minds to any particular view of religion, and prejudiced the question. . . .

'Among the first missionaries to Bombay, I was personally on terms of the most intimate friendship with that memorable and holy man, the Rev. Gordon Hall, of America, and many others of like spirit and temper. Circumstances happily led to my being a witness also, from the very first arrival of the missionaries of the Scottish Missionary Society, to all their proceedings—to the simple, unaffected piety and devotedness of the Revs. Messrs. Crawford, Cooper, Stevenson, and James Mitchell; and I offer my humble meed of acknowledgment to their holy walk, their influential and edifying instruction, in and out of season, in every path whither the Lord was pleased to guide their footsteps.

'There are many subjects of the highest interest and importance to humanity, which seem, after the lapse of ages, to have attracted, *comparatively*, little notice. Speculation is ever busy on a variety of researches, which, were they determinable by facts, would, nevertheless, result in no general or practical advantage to the community. The mischief, unhappily, however, does not terminate here, or issue in the mere exhibition of individual delusion or ingenuity. The greatest minds are continually carried off from the contemplation of these matters which are of special,

nay, of everyday obligation to us all; and by those of less experience and wisdom they are neither considered with that grave attention, nor set before us with that convincing eloquence, which their actual importance might deservedly bespeak for them.

'Is there one, we would ask, of those who think deeply, who regard the physical and religious education of man as involving the most sacred concerns which can occupy the attention of a Christian community, and of every individual member of Christ's fold, who within the whole range of our duties can advert to any with more intense interest than to that of FEMALE EDUCATION? To aver that it constitutes the root and efficient spring of moral and religious culture may be judged by many to overpass its legitimate importance. The assertion is, nevertheless, substantially and strictly true, nor can it be doubted that the influence for good or evil which the female mind exercises in every state and order of society, in every region and country, whether Christian or heathen, whether barbarous or polished, is incomparably greater than we should be disposed to infer from the records of history, the inquisitions of legislative or judicial scrutiny, or any testimony short of Scripture. There this great master-wheel of a thousand revolutions in the complex machinery of governments and institutions, of the domestic and social circle, of the civil and religious world, is seen in all its simple, curious, but mysterious movements, regulating, calming, propelling, disturbing the fierce passions, the restless tempers, the daring or the timid character of man, in so many varied and intricate ways, that philosophers would be baffled to explain or investigate those illimitable consequences which result from the intervention of such a mighty power.

'Shall we advert to her, first in the offices of love and companionship to our common progenitor, first in the Fall, but in her repentance not behind her husband in receiving intimation of the promised Redeemer; to her, last at the cross, first at the sepulchre? Shall we go back to the guilty



Chinamée, The Belle
of Ootacamund

S.a.d.a.g., Geneva

THE BEAUTY OF OOTACAMUND, NILGIRI HILLS

Facsimile of a portrait from Nature, drawn in water-colours by Captain Jervis

Printed in Switzerland

wives of Lamech, or the cruel Herodias, and pronounce of those that they were solitary instances of transcendent piety or wickedness in the long line of ancestry of the families of mankind? Can we imagine darker or more beautiful pictures than the Spirit of God has drawn in the pages of inspired truth, and not conclude that such were the effects of enlightened or depraved minds, of cultivated understandings or souls destitute of every grace and principle? Let us look well and ponder with awe on the manifold effects, not in the bygone days of antiquity, but take the plainer proofs at our own doors of a mother's or sister's influence, or the magic spells of the associates of our own bosoms, in stirring to deeds of enterprise or honour, to thoughts of peace and holiness, or to advances in the broad road of dissipation and sin, of dishonour and reprobate apostasy.

'Can any who judge correctly of that universal controlling love, which disposes and turns the hearts of all men, lightly undervalue the operations of such an influence as is here manifested? or can we overlook the fact that woman was made to be the helpmeet for man, in all his trials, in all his undertakings, in all his hopes and pursuits, and in all his eventual state, to participate equally with him in the inheritance of the saints in glory?

'Shall we give so little credit to our Maker for the distribution of His best gifts to us as to think slightly of them in any form or garb—the symmetrical features of the mountaineers of Circassia, or the repulsive countenance and small stature of the Hottentot or Veddah? The impress of God's image is on the soul, lighted up by His grace for immortality, or consigned by wilful negligence to those abodes where the worm dieth not.

'Such, then, is *Woman;* such her place in the great theatre of this passing scene; such her office, ministry, and influence, according as her steps are directed heavenward to the blessed Saviour, or as her noble qualities are employed, in the artifices of Satan, for her ruin; as by the harshness

of her companion, *Man*, they may contribute to the annihilation of every common hope in their onward progress to the mansions of eternal felicity or misery!

'It is impossible for any of us who mix much in the world to be ignorant of the fact that the great public educational bodies take too little account of the female mind, as if it were a matter of very secondary importance in the great purposes of *National Education*. It must have struck others besides myself that many men of very comprehensive and most philanthropic spirit pay so little heed to the nice question of training the female mind, of recurring to it as the primary element of that compound of passion and intellect which is developed in every form as the agency of intelligent and responsible beings.*

'One and all, legislators and parents, consider it as the exclusive province of woman, with which their own sex has only to do, and in which woman is chiefly and naturally interested, little imagining that, as the mother, the sister, or the wife, is taught to discern and make her selection between good and evil, to appreciate and impart what she knows to us, she may become the great pattern and promoter of holiness, or the attendant and copartner of the guilt of her fellow-man. Shall we, then, be slow to recognise what is so obviously our duty, or suffer ourselves to be deluded by day-dreams of missionary enterprise, ending with the excitement of a little temporary meeting, the converse at a fireside party, or the solemn assemblies of the Church? The process may be slow, but if prayerfully pursued will be effectual and sure, and under the blessing of the Holy Spirit peculiarly calculated to return comfort to every bosom thus exercised, as to the bosom of the Church, distracted and torn as it now is by dissensions, heart-burnings, and heresies. And in the fulfilment of these purposes we look forward to the prominent and mighty objects which first obtrude them-

* Things have greatly improved during the last half-century. Not a little danger now lies the other way.—ED.

selves on our notice, to *the maintenance and efficiency of all those missions which now exist, and the providing of further and suitable agents to carry on the arduous work, with all the subordinate machinery requisite to the regular fulfilment of the services appointed to them.*

'Of all those who are in the field I will bear my unqualified testimony as being men of no common character or singleness of heart. I have long known and loved them, and been a glad witness of the devotedness, talent, and success which has marked their career. I will not dwell on this or that man too much, lest I should overlook the Christian modesty with which they themselves refer their all to Christ. Drs. Duff and Wilson, Messrs. Anderson, John Macdonald, Nesbit, and Murray Mitchell, are no common agents; they are evidently before all men servants of God's appointment to this high office; yet are *all the missionaries of every persuasion* in their respective vocations equally animated by the same spirit. Nor could I wish to advert with less regard to Dr. Poor, the Rev. Messrs. Allen, Candy, Dixon, Tucker, Rhenius, Taylor, Beynon, and Miller, besides many others, whose bright and beautiful example of patience and self-denial has come more peculiarly under public observation. Each in his proper sphere exercises a dominion over minds cast down and dishonoured, oh, how changed by heathen prejudice, neglected education, or natural corruption, that one cannot, indeed, but look on the calling and character and ministry of those servants of God, on the scene of their labours, on the great difficulties and trials they have to contend with, without sympathy and emotion! That great philosopher, Lord Bacon, paraphrasing Lucretius, has said in one of his essays: "It is a delightful thing to stand on the shore and see a ship tempest-tossed, struggling with the waves." How much more sublime to see the Christian soldier warring the good warfare with the far fiercer elements of human passions, and the terrible engines of Satan and his emissaries! There is such a spectacle

where men, like Bunyan's Christian, have girded on the sevenfold weapons of defence of their Master's armoury; and who of us, as he watches the conflict, will hesitate to say in the exultation of his spirit: "Go, and the Lord be with you"?

'Will you say to such men, "Be ye warmed and clothed; you have our best wishes and prayers," and leave them after all unsupplied with anything they need? We judge not of the soldier's bravery by the make or colour of his dress, nor can we distinguish between the missionaries of any Christian denomination by any other token than the spirit of their Master. *Will any private or party feeling deter us from extending to them the right hand of generous fellowship?* or shall we cease on the appointment of these devoted men to strengthen their hands with other helps, and not find it in our hearts in an especial manner to help those also who are their helpmates, and helpmates, too, in the vineyard of the Lord?

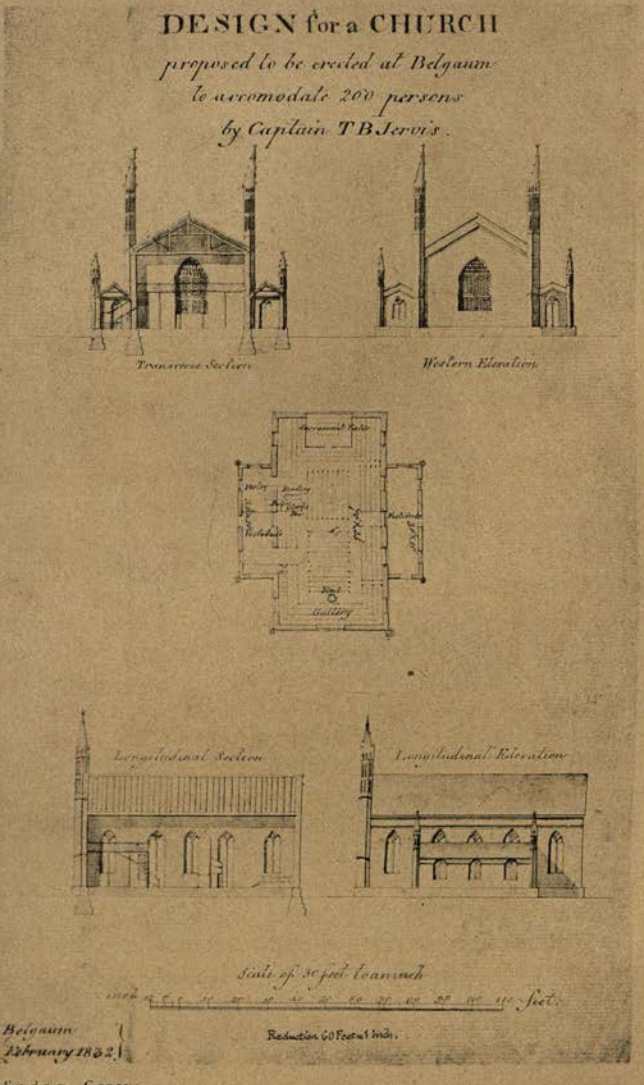
'And if others should go forth at your bidding, and with the blessing and aid of many such spirits as are here, *will it not be prudent to consult the bodily fitness, the mental capacity and energy, the aptitude of all such agents at instruction and the acquisition of languages, the physical endurance of privation of personal comfort, which must be the proper and certain consequent of the missionary office?* For in the inconsideration of all these points, and the tightening or relaxation of the cords by which each is bound to a special line of conduct or pursuit, the work of missions has, in abundant instances, been greatly damaged. Many a female, whose soul was lighted up by a heavenly flame of affection to the Saviour, has confessed her inability to master the languages, or some such grievous impediment as those I have adverted to, which have crippled and destroyed their energies. Many, alas! have sunk, unknown to us, oppressed with the sorrows incidental to poor, disappointed humanity, and the weakness of a frame ill calculated to stand alone in the contest of life.

'But witness how many have bowed in simple resignation to the fiat which terminated their gentle office of instruction:

Mrs. Cooper, Mrs. Wilson, Mrs. Allen, Miss Reid, Miss Farrar, and the ever-to-be-honoured Mrs. Judson and Miss Bird. *Their names are written in heaven.* Shall their example not incite us to exertion? their meekness and grace not concur to advise us as to whom we should select or send forth in a like service? Yes, *prudence is the first requisite in such selection; the motive, the temper, the whole spirit of such parties, is an object of deep concern to the Christian world, as to the individuals themselves.* What disparagement an inefficient instrument may not have done to the cause of our Master we know not; but I can tell you who take a sharp account of such negligence, and rejoice in every such failure —the enemies of the cross of Christ, the heathen, and those wretched beings who choose not to have God in all their thoughts. When we recently met with disasters in Afghanistán, the triumph of those Asiatics—and they are not a few—who hated our name and administration, the bigoted Moslems and the crafty Brahmán, no longer smothered their feelings in the whispers of retirement, but burst forth into open gratulations, that now at length our rule was approaching to its termination; that Britain would soon cease to exercise that dominion which disarmed the discontented, and deprived the restless of any pleas to revolt, which made peace and hope smile out of the desert wastes of a thousand generations, and prepared the fallow grounds of Asia for the Gospel seed. And if God so work with us, shall we demur as to how we can be fellow-workers with Him? There are as many means for the extension of missions as for every other purpose under the sun. The very subdivision of labour, and the success which follows upon it, in any mechanical or scientific undertaking, implies a positive necessity and an obvious attendant advantage for the like process in regard to spiritual affairs, and more particularly missions—the work of instruction to youth of either sex, and the work of education; for these, however confounded, are essentially distinct. And here I would particularly draw your serious attention to this

delicate question, the very distinct nature of education and instruction: the former, the great work of training the soul to decide and act; the latter, the means of bringing clearly under the mind's eye all that with which our intelligent and sentient faculties can or need become acquainted. Do what we will, instruct as we will, more or less, the female mind is best employed and principally effectual in the great work of education. The acquisition of knowledge, of whatever kind, is one thing; the education of the man or the woman is another; and according as the moving principle in the important scheme of education is herself consulted will all society be affected to good or evil. Experience abundantly satisfies us that in every despotic country, where fanaticism, ignorance, and cruelty tyrannize over every other better principle, the female mind is, nevertheless, equally active; all those deeds, the honour of which men proudly arrogate to themselves, more frequently originating in the breasts of mothers, and sisters, and wives. Deeds of blood, and darkness, and iniquity, when untaught by the Spirit of Truth, uncontrolled by a higher principle than self and the passing world, break out and spread far and wide the disastrous consequences of *neglected female education.* Infanticide, self-immolation, unheard-of cruelties, and superstitions and barbarities, bespeak the character of heathenism, and the part it takes in the antagonist ranks of the great enemy of souls. Go, then, to the fountain-head of these abominations, if you would strengthen the hands of the missionaries, or desire to contribute in your persons. your services, or your counsels, to the preparation of the highways in the anticipation of our Master's near coming.

'These are subjects of weighty consideration, and open up a vast field of usefulness at home, as well as abroad, in every family, in every female breast that concludes herself as one of Christ's fold, engaged by every vow and obligation to His standard and cause, and who bears in mind the blessed promise that 'they that turn many to righteousness shall shine as the stars for ever and ever.'



S.a.d.a.g., Geneva

PLAN OF BELGAUM CHURCH

Designed by Captain Jervis, and built by him in 1832
Facsimile, scale 60 feet to an inch

Printed in Switzerland

CHAPTER VIII.

CORRESPONDENCE CHIEFLY WITH MISSIONARIES IN INDIA.

'No life is a failure which is lived for God, and all lives are failures which are lived for any other end.'—FABER.

Extracts from communications with Dr. John Wilson, missionary of the Church of Scotland.

'LONDON,
'*December* 23, 1837.

'MY DEAR MR. WILSON,

'. . . I should be glad to have my three curious inscriptions on stone sent home through Messrs. Forbes and Co.; the two Belgaum inscriptions I left with Lieutenant Hart, of the Engineers, to deliver over to your care, and the Pahlanpor inscription I lent to Mr. Wathen. I trust to your friendship to see this wish speedily attended to; I was at a very great expense in reducing the two former and transporting all. . . .

'You will be glad to hear of my appointment to succeed Major Everest. . . .

'With my best prayers for your happiness here and hereafter, in which Mrs. Jervis joins me most heartily.'

The beautiful inscriptions alluded to are preserved in the British Museum; the Belgaum stones are cut in hard bluish trap rock.

Three weeks before finally leaving India, Major Jervis wrote a most affectionate farewell to the Rev. Dr. Wilson, then at Mahábleshwár:

'BOMBAY,
'*December* 9, 1841.

'MY DEAR FRIEND,

'You would forgive me, I am sure, for my omission to write to you, if you knew how many and pressingly urgent matters have occupied my time since you left this. I have had many and severe trials of patience, and have often grieved that I had not you to give me counsel. . . .

'Next to this a gentleman from Venezuela, a perfect stranger, was introduced to me by letter from my good friends Mr. and Mrs. C——, at Calcutta. He seemed to me at first, and to the last day I saw him, a good-natured, harmless gentleman. He was travelling round the world, and came to tell me all he had seen. He came from Calcutta, as it appeared, with a person named Dr. ——, also, I believe, a well-meaning man, but eccentric, and during a voyage of three months from Calcutta they got into some foolish disagreements, which Dr. —— resolved that I, as a friend of this to me perfect stranger, must adjust by some weapon or other; but I was ill, anxious to a degree, and had no time or inclination for such breach of peace and religion. It cost me a deal of time, sorrow, and trouble to put matters straight, and I believe some men, with more disposition to foment matters and encourage trouble, would have gladly seen things differently managed; but I saw and acted up to my Christian duty, and the strictest rules of prudence and propriety, I hope. I also underwent a vast deal of anxiety on account of ——'s negligence and misconduct while employed at the building; two suits were filed against me for small sums, which I determined to have properly adjusted. After much trouble I got them both settled by arbitration. . . .

'I have been indefatigable to get your building advanced. I took Colonel Dickinson [the chief engineer of Bombay] over

it, and he thinks the work well worth the cost. It now remains for you to select a successor. I beat about the bush everywhere to think of anyone likely to do justice to your wishes. I think the best I could suggest is Captain Fulljames, who is willing to undertake the superintendence, and do all he can to please you and the committee. I beg of you to write to the committee on the subject, consenting to my arrangement, and I will make over the work and plans, and to the committee the accounts, and I shall, I hope, leave all things in such a satisfactory state as will enable him to proceed and complete all according to the original design. You I know, my dear Christian friend, and I beg of you to go on *in faith*, cheerfully and steadily, and I feel confident you will never regret the advice. I acknowledge it will require a considerable share of firmness, and people will talk and oppose; but you need a respectable, suitable, and plain edifice, adequate to the objects of the institution, and that may be accomplished without difficulty. . . . I only wonder, as I look back, that I have been able to get over so much in this short time.

'And you, my dear friend, have had your trials, and I have felt and deeply sympathized with you. My poor dear friend, Miss Bayne, used frequently to give me a word of counsel and hope, and I rested my heart a long while on those affectionate and experienced spirits who were then away; I thought and wished at least I might have had you at hand to tell me what course to pursue.

'I trust you find yourself better and will be sufficiently recruited if you are resolved to stay and complete your work respecting the Parsis, but my own counsel to you would be to give the world that first portion that is already completed, and in gathering up all the opinions expressed in it, if there is any omission it can be introduced in the concluding portion. But do rest yourself. We are still mortals on earth, chained down to circumstances and place, and all the ills and accidents of life; and if you wish to do good service and be further useful in the Lord's work, you must

go elsewhere and shake off for a while all your Indian connections and operations. Let me counsel you as a faithful and most sincere friend, and place all the matters in God's hand to bring them to a happy completion in His own good time; if you neglect the present opportunity you may lament it too late. . . .

'I leave this positively on January 1. What would I give to see you but for one hour! May the grace and love of our Lord Jesus Christ be with you ever.'

'*December* 10, 1841.

'I enclose a note from Captain Fulljames. I recommend strongly that you carry out, *as you have opportunity*, the original design. Do what you can first, and if all cannot now be done, it may be accomplished hereafter, but proceed as if with the ultimate design in view. I stopped the work to-day.'

From Rev. John Wilson, D.D., to Rev. Dr. Stevenson, Bombay.

'MAHÁBLESHWÁR,
'*December* 11, 1841.

'MY DEAR DR. STEVENSON,

'The members of the corresponding committee are all probably aware that our friend, Major Jervis, to whom we are indebted for the admirable plan of the buildings designed for the accommodation of our Institution, and for the superintendence of the workmen employed in its erection, is about to retire from the service. He has written to me about the appointment of a successor, and I beg to lay before the Board an extract of his communication.

'. . . In the common course of human dealings we cannot hope to find every day a person at liberty to show to us the generosity of Major Jervis, with whom we are so soon to part. It could not be expected that another could labour day after day in superintending and directing the workmen

without suitable remuneration. . . . I most cordially second Major Jervis's proposal to hand over this important work to Captain Fulljames. I have the pleasure of being acquainted with that officer, and have no hesitation in saying that, considering his knowledge of science, his experience in public works, his urbanity and his good sense, as also his relationship to Colonel Dickinson, the chief engineer, he is the man we require.'

At the last moment before the steamer started from Bombay for Suez, the following touching letter was received:

'MAHÁBLESHWÁR,
'*December* 30, 1841.

'MY DEAR MAJOR JERVIS,

'I have been expecting a few lines from you, but I know that you must have been overwhelmed with business since I wrote to you the other day. I cannot allow you to leave the shores of India without again bidding you farewell, and imploring on your behalf the blessing of our common Father. May His presence go with you! May He give the winds and the waves and the earth charge concerning you, and conduct you in safety and comfort to the land of your fathers! May He graciously grant that you may there meet with your beloved partner and little ones in peace, and may He long spare you to be to them a shield and a support! May He open up for you many sources of intellectual, and, above all, spiritual, enjoyments, and many great and effectual doors of usefulness in connection with the cause of philanthropy, which is possessed of so great magnitude in your estimation! May He make you in the high walks of literature and science to testify to His claims, and to the wonders of His creation, providence, and redemption!

'I have not yet received your address in England, but I hope that I shall soon be in possession of it. You will greatly gratify me by accepting a Bible which I shall have

sent to you as a token of my affectionate regard and my deeply-felt gratitude to you for your invaluable services in connection with the missionary institution which God has honoured me to found in this benighted land. It will be delivered to you in London at any place which you will mention. The gift will be a very imperfect expression of my feelings.

'The report of the Konkan I have received. It is a most important and interesting document, and well worthy of being laid to heart by the authorities.

'The Parsí converts, Dhanjibhái and Hormazdjí, send you their kindest regards. They are much grieved, poor fellows! at the loss of kindness and affection which they sustain by your departure.

'Remember me in the kindest manner to Mrs. Jervis, and believe me, my very dear friend, to be ever

'Yours most affectionately,

'JOHN WILSON.'

The above letter was soon followed by a beautifully bound copy of the magnificent quarto reference Bible issued by the Oxford University Press in 1840, and containing the following simple dedication: 'To Major Thomas Best Jervis, from John Wilson, D.D., as a small token of his Christian affection and gratitude for his admirable design of the General Assembly's Institution in Bombay.'

Nor must the following important passage, written on the flyleaf of that Bible in Major Jervis's own handwriting, be omitted, although not his own, since it is an implicit statement of his personal subscription to the pure truths manfully upheld by his worthy friends who published it half a century ago.

'*Declaration of ministers and members of the Church of England respecting several controverted truths.*

'Having witnessed with grief the endeavours of some persons to unprotestantize our Church, for which end they

reject the doctrine of justification by faith alone; deny that ungodly persons, if baptized, need to be regenerated; pervert the meaning of the Sacraments; change the ministry of the Gospel into a priesthood; assert that those ministers who have not received episcopal ordination are not true ministers of Christ, and that their congregations form no part of the Church of Christ; make what they term the *Catholic Church* the authoritative interpreter of the Word of God, and thus seek to prevent each Christian from fulfilling his indispensable duty to weigh and judge for himself the meaning of its language—we, the undersigned ministers and members of the Church of England, feel ourselves obliged, by our fidelity to the Lord Jesus Christ, by our regard for the Word of God, and by our wish to promote the welfare of our Church, publicly to profess our belief in the following truths, which we are resolved, in dependence on the grace of God, to maintain and disseminate according to our ability, in which defence of the Gospel, always important, and now rendered more urgently necessary by the progress of "Anglo-Catholic" doctrines, *we earnestly invite the co-operation of all who value evangelical truth.*

'"1. Holy Scripture containeth all things necessary to salvation, so that whatsoever is not read therein, nor may be proved thereby, is not to be required of any man that it should be believed as an article of the faith" (Article VI.). "It is not lawful for the Church to ordain anything that is contrary to God's Word written, neither may it explain one place of Scripture so as to be repugnant to another" (Article XX.). "But General Councils and particular Churches, being liable to error in matters of faith, as well as in the ceremonies which they establish" (Articles XXI. and XIX.), they may be found to profess what cannot be proved by the Word of God, and to ordain what is contrary to it. Every Christian is therefore bound to examine and to ascertain the meaning of the Word of God for himself by the use of all the aids within his reach, and to receive

no doctrine as the doctrine of Scripture unless he sees it to be declared therein, otherwise he may receive error as truth upon a fallible authority, against the plain testimony of the Word of God.

'"2. Believers are accounted righteous before God only for the merit of our Lord and Saviour Jesus Christ by faith, and not for their own works and deservings" (Article XI.). "They are justified by the righteousness of Christ imparted to them by the Spirit, not by any inherent righteousness, and they are, from first to last, justified by faith alone without works, but 'as good works do spring out necessarily of a true and lively faith'" (Article XII.) the faith which justifies is a faith which "worketh by love."'

To Archibald Graham, Esq., M.D., Bombay.

'SUEZ,
'*January* 19, 1842.

'MY DEAR GRAHAM,

'Here at length we have arrived, after a voyage of unusually even tenor, as all other matters have gone on smoothly. . . . Be so good as to inquire about the model of the beam for the General Assembly's Institution, and give it and the model of the building to dear Dr. Wilson, whose property they are, and for whom I expressly made them at my own expense. Let him know this, and claim them. I strongly disadvise and deprecate any change in the plan and design of the building. A good, neat, permament style of building is required, and the dear good doctor understands my views on this subject. I would not forego anything for such important ulterior considerations, and *as Christianity must and will eventually triumph over heathenism in all its protean forms*, I hope this structure will be constructed with such pretensions to permanency and characteristic stability. I shall write often to you, dear Graham, and to Mrs. or Captain Jameson; let them know I have not forgotten them, nor dear Miss Puddicumb, Mr.

and Mrs. Candy [missionaries], and Mr. and Mrs. Valentine [missionaries]. I will fulfil your request for the dear little girls at Douglas, Isle of Man. May the Lord Jesus bless and keep you!'

To Rev. John Wilson, D.D., Bombay.

'TORQUAY,
'*March* 2, 1842.

'MY DEAR DOCTOR,

'I look back with much regret to the day of our parting, and that you so stoutly resisted my entreaties to revisit Europe, when you so much needed the change. Indeed, the ministers of the Lord are equally bound with the children of the world to husband their strength, and thus to show their simple dependence on their Master; but I have much to say against you and Dr. Duff, and many others, in neglecting the means which we all in this poor perishable tenement need at every instant, to enable the body and mind to go on together cheerfully and efficiently. I value highly the privilege you have often permitted me to speak so frankly, and now dear Anne Bayne is no more at your side to counsel you, I will be bold for the Christian love I bore her to entreat you also to think how much more you can accomplish with a body and spirits armed at all points to your great work. I trust it is yet in the Lord's gracious purpose to reserve you to do much good, but for my own mind I feel this conviction, that there is more instruction imparted by our Christian walk and conversation than any direct ministry, and this light will shine in your example and patience and conversation with clearer, brighter lustre as the means of active usefulness are cut off. How little, after all, is the best we can do to explain or set forth any truth in order; but in the effort the Christian reverts with confidence to his Master, with whom all things are possible; and whether it shall be in the designs of His goodness that you should be the honoured instrument to cast down the

Parsí priestcraft to the ground, or to have led the way and borne the brunt of their first and bitterest enmity, you will rejoice in the prospect of the truth dawning on many minds, and commit the accomplishment of the work into His hands. I cannot express to you how anxious I felt respecting all your plans and desires regarding the Institution, your work, and other matters, and being now removed so far from you, I look with greater solicitude to the receipt of intelligence from India.

'I shall make known in a letter to Dr. Brunton how much the Church and the Christian community are indebted to you for your services of love in the great cause of the Gospel. I am sure he will not take it amiss, or you consider it presumptuous in me in bearing my humble, but undisguised, testimony to the expression, not of my mind only, but that of many who look on what is passing daily before their eyes.

'I felt most desirous to see the design and object of the Institution carried out. . . . All which my successor has to do is to execute. The plan is laid down for him, and quite clearly enough for him to go on. He need not waver as to the amount required to complete it, as I feel confident you will realize it without difficulty. What is necessary is a good beginning, and such a one as will need no subsequent alteration or removal of any part. There is a good entrance hall; a library on the right hand, similar to, but much smaller than, that at Calcutta; in the centre a large vernacular school; on the left a room for the female school, and a room for the mistress, entered by a door and steps from the north-west, the communications being closed to the vernacular school, and opening only to the hall by a door facing that to the library, a staircase leading from the female school to the room overhead, to permit of the children passing up to the long room for the general instruction of the whole on any particular occasions.

'The public staircase is entered from the vernacular

school-room by an entrance door and steps from without on the north-east angle, and communicating with the library. In the angles are two w.c.'s, and the landing opens upon the great centre hall, sixty feet square, which has a dome in the centre, twenty feet in diameter, proposed to be of thin cast iron, supported on wooden or light cast-iron pillars. The room over the library to be devoted to the more advanced classes in natural philosophy and other sciences needing a small philosophical apparatus, instruments, etc. I also contemplated two separate cast-iron neat staircases, to approach the great centre hall above, calculated to admit one or two persons at utmost at a time abreast, opening upon the benches or seats for the auditors, as in a lecture-room or theatre of our great Universities, sketches of all which I will endeavour to send you out. I see no difficulty in completing it in a style suited to the character and objects of a Christian institution. It may be terraced, and that securely against all weathers, if sufficiently good timber be used, and the terrace be made of asphalt and lime. . . . Such buildings, as indeed all buildings, require looking to and management; but the comparative comfort, cleanliness, and appearance are not to be named in comparison of the great, heavy, and expensive tiled buildings which give Bombay such an unsightly and rude appearance. I had wished and hoped to break through the old prejudice, and have introduced a better taste, which has preceded us at Calcutta and Madras.

'We found the most trying part [of the return home] to be in crossing the desert and through Egypt; the hurry, confusion, and mismanagement surpass all description. It is a poor sort of agency, but, still, the best and only one that can be established as yet. 'All the travelling in India is perfectly laughable in comparison to it, and it requires the strength of a robust man to get over it without subsequent ailing. We all feel, and felt immediately on our return to England, the effects of this severe trial, and were

at leisure to do penance for our hasty trip homewards, as the Government exact twenty-four entire days from the time of quitting Alexandria, whenever there is any case of plague, as was the unhappy lot when we passed through. The voyage of the *Oriental* occupied eighteen days till we reached Southampton, so we had six full days of quarantine. . . .

'Let me ask of you the same remembrance at the throne of grace which I always offer up for you and those engaged in the sacred cause of our Master in heaven. . . . Farewell, my dear friend, and "May the Lord Jesus bless you!" is the prayer of my dear wife and your very sincere friend.'

To Dr. Wilson, Bombay.

'LONDON,
'*September* 6, 1842.

'MY VERY DEAR AND RESPECTED FRIEND,

'I hope this mail will bring me some intelligence of you and all my friends engaged in the great work of missions. . . . *I am convinced that one of the greatest steps to the efficiency and continuance of missions is unanimity*, and I often send my thoughts abroad with more than ordinary anxiety respecting yourself and my much loved friends engaged in this mighty and difficult task. I trust you will not experience any further opposition at the hands of any, or be obstructed in your views of Christian improvement. We do not all see with the same eyes, though the object presented to us be the same; and the singleness of heart with which you have exerted yourself is probably destined, in the wise purposes of our beloved Lord, to be fully appreciated and overruled by Him. *If only we could see for an instant with His unimpassioned eye how much detriment is done to His cause by those who think that their way of judging is alone just, how would the best servants in Christ's vineyard see occasion to throw away their presumptuous opinions and ask to know more of His will at the hands of all who love Him!* I shall be glad to know that you have carried through

your measures respecting the Institution before you leave. All things must be undertaken in a good and great spirit, but we cannot expect that they will be accomplished at once.

'I have been unwell and much harassed since I returned to England, and am indeed suffering at this time a good deal from derangement of the liver; but I hope in a short time to be more settled, and to have much leisure to think of the kind friends I left in India. . . .

'I have made every inquiry and exertion respecting my work [on the Geography and Statistics of Asia], and feel and am persuaded that it may eventually come forth, though more slowly. It appears that there are vast stores of materials available for such an object; and if I cannot execute my own plan to its fullest extent, I hope to send out the first portion of this work, or of such as we had jointly considered the most appropriate substitute, and I am constrained to believe the melancholy train of events which have followed each other in quick succession over all Asia will give an undertaking of the kind at this particular juncture a more than ordinary degree of interest. . . .

'Give my hearty regards to Webb and his brother, Dr. Stevenson [chaplain], and Mr. and Mrs. Mitchell [missionaries]; the Jamesons, Archie Graham, Mr. Allen [missionary]; my two Parsí friends, the Candys and Valentines, and Miss Puddicumb. . . . Where are your little ones? I have asked Dr. Duff to tell me where his are; do you do so likewise. We shall be very glad to show them all the kindness in our power.'

The Rev. Dr. John Wilson, Suez or Cairo, Egypt.

'LONDON,
'*January* 5, 1843.

'MY DEAR RESPECTED FRIEND,

'. . . You will remember, I hope, that you have always a room and a most hearty welcome in our abode . . . and for His sake who loves us both, my dear wife and I

shall always be glad to serve His favoured servants. And now, dear friend, I proceed to relate what progress I have made in my work; little indeed in some respects, but under God's blessing, I hope, successful progress. I struck off the map of Bombay myself, and it is pronounced by the best judges to be very superior to anything that has ever been executed in England. . . . This is a great point, and the surest recommendation of my proposed map of Asia. . . . I have got Hügel's "Kashmír," translated from the German (half). I have a nice map of Central Asia (Bokhara and Khiva) lithographed. . . . I have a couple of lithographic presses of my own, a printer and lithographer. Whatever you or the missions require shall be done at this press without one farthing of charge beyond the material and labour. . . . My capital is very small. . . . I applied for the patronage of the Queen, Prince Albert, and the whole of the Royal Family. Prince Albert and the Duke of Cambridge have come forward most handsomely, and put their names down; and the Royal Asiatic Society, at the suggestion of the able director, Professor Horace Hayman Wilson, have broken through their usual rule, and subscribed to the memoirs and map; the President of the Royal Geographical Society also. Her Majesty's Government, through Lord Aberdeen's advice, have put into my hands a curious plan of Peking, just received from the British Ambassador at Naples—who purchased it of the Jesuits—to be lithographed facsimile, and inserted in my memoirs. The Chinese names and words are translated by the Chinese missionary youths in the college at Naples. All this augurs well. . . . Farewell, dear good brother in the Lord Jesus!—With Mrs. Jervis's and my family's united love, I am, your most humble and affectionate servant and friend.'

The Rev. Alexander Keith, D.D., addressed two letters to Major Jervis, of which the following extracts will be interesting:

'MUNICH,

'MY DEAR SIR, '*April* 17, 1843.

'Having had the good fortune to meet here with the bearer, Mr. Roth, naturalist, I cannot resist the temptation of writing a few lines to you by him. . . . I am now passing through Bavaria, on my return to Scotland, after an absence of more than a year. The Church of Scotland has of late taken a deep interest in the Jews, and appointed a deputation to make inquiry concerning their state, and to report as to the means most desirable for promoting, through the Divine blessing, the conversion of any of them to the Christian faith. Having been urgently requested to be of the deputation, I left Scotland in the beginning of April last year. . . .

'I was duly informed of your great kindness in forwarding a copy of your work, and of the kind letter which accompanied it. The pleasure and profit of perusing it I yet hope awaits me. It would give me the highest satisfaction to hear from you, and I would feel particularly obliged by your sending me any information that may come in your way respecting the *Beni Israel*.—Very sincerely yours.'

'EDINBURGH,

'MY DEAR SIR, '*April* 22, 1843.

'Having learned from my friend Mr. Alexander Keith Johnstone that you are at present in London, and having received from him your address, I make no apology for writing to you on a subject in which I am persuaded you feel a deep interest, viz., the illustration of Scripture from geographical facts. Since I had the great pleasure of seeing you I have been a great wanderer.

'After many interruptions, I have now a treatise in the press on "The Land of Israel according to the Abrahamic Covenant." Since I put the first part of the manuscript into the printer's hands, new materials, strongly confirmatory of the view I had previously taken, have come into my possession. I have been long looking anxiously for a work

from Colonel Chesney on the Euphrates Expedition, but I had not seen till very lately his articles in the *Journal of the Royal Geographical Society*. These supply important information, and through your kind co-operation, as that of the *only personal friend* to whom I can apply, I hope to procure further information of the highest importance, and the means of illustrating the subject far more completely than I could otherwise—for the present at least—be able to do.

'In a word, let me inform you that, after some investigation, I feel persuaded that the "*Covenanted* Land of Israel," yet to be possessed, reaches to Amanus on the north, along all its range from the Mediterranean, at the mouth of the Orontes, to the Euphrates, north of Bir. I think it is demonstrable, as I have endeavoured to show, that Mount Casius is the "very high mountain" (*altissimum montem*, Vulg.) from which the entrance into Hamath is pointed out, as it is itself a conspicuous landmark as seen from the sea.

'The chapter on the Boundaries, or Borders of the Land, according to the Covenant, is partly printed. *All the lands* south of Antioch and Mount Casius *remained* to be possessed after the death of Joshua, and were *unoccupied* by the Israelites (Joshua xiii.). The manner in which the true north border is to be ascertained is described in Numbers xxxiv. 7, 8, and Ezekiel xi. 7: "*From the Great Sea ye shall point out unto the entrance of Hamath.*" On the supposition that Mount Casius is this mountain, you will at once perceive how desirable it is to obtain, by way of illustration, a view of it from the sea, and of the Valley of the Orontes from it. The officers of the Euphrates Expedition ascended Mount Casius, and bivouacked near the summit, and they can thus best supply a description of *the valley* to Antioch, as seen from it, or as it extends beyond that city (which was called Hamath the Great), till the way be opened to the land of Hamath.*

*See also Keith, Dr. Alexander, D.D., 'The Land of Israel according to the Covenant with Abraham, with Isaac, and with Jacob,' Edinburgh, 1843, p. 92.—ED.

'The desire for information that may elucidate one word of Scripture *you* will excuse, and I feel convinced, from having had the pleasure, during our brief intercourse years ago, of having taken sweet communion with you on such hallowed themes, that you will do your endeavour to fulfil this desire, and give if you can your willing aid in procuring the most important information in the most authentic and authoritative form.—With Christian affection and esteem, believe me, my dear sir, most sincerely yours.'

From the Rev. J. Murray Mitchell, Bombay.

'BOMBAY,
'*July* 31, 1844.

'MY DEAR MAJOR JERVIS,

'Dr. Wilson has informed me of your exceedingly kind offer to procure for us books, maps, etc. We do not know whether the missionary of the Established Church when he arrives will claim all those belonging to the Institution while in connection with the Established Church. We shall then have no library, and scarcely a few school-books. Our first want lies in the school-books, of which I sent a list, which has probably been forwarded to you; next maps; next the foundation of a library; next some simple philosophical apparatus, which could be used in easy lectures to our own pupils and the natives generally.

'The Institution you so kindly and ably planned, and the progress of which you superintended, stands, an imposing building, but *is* fairly lost to us. . . . May your kind assistance on the present occasion be preserved to those for whom it is intended.

'We have noted your services in regard to female education. Webb and other friends have read your *Address* with much interest. Had it not been for the occurrence of the names, which your own kind heart led you to insert, we should have published it in the *Oriental Christian Spectator*. Our sensibility on that point you may deem morbid, but we cannot get over it. . . .

'I think the version of Baron Hügel's "Kashmír" is excellent, and so do some good judges who have seen it. The original is a most sensible work, and the translation is even elegant. . . .

'Mr. Nesbit and I have been at Poona to attend a meeting of Presbytery. Our missionary, Mr. Aitken, of Poona, was ordained while we were there. A pleasing event was the presence of Sir George Arthur at the annual public examination of our Poona English Institution. He expressed himself as being much interested and pleased, and offered to visit our Bombay Institution as soon as he returns to Bombay. Sir George seems most deeply solicitous for the promotion of the best interests of India.

'You will grieve to hear that Mr. Valentine, of the Church of England Mission, died last week. He was a most devoted man, universally beloved. He has left a wife and two infant children. How solemn a dispensation! May we all labour while it is day, and be prepared to quit this world at any season. But I must have done. Mrs. Mitchell joins me in kind Christian regards.—Affectionately yours.'

From the Rev. George Candy, Bombay.

'BOMBAY,
'*August* 26, 1844.

'MY DEAR JERVIS,

'I have long been desirous of writing to you, and to acknowledge with many thanks your kind present of Milner and Scott; they are indeed a valuable addition to my library. You will be grieved to hear of the death of that good man Mr. Valentine. His loss is indeed to us a great one; after his wife and children, to none more so than *to me*, to whom he was much endeared. On Sunday, July 21, he took the two full sermons at Trinity Chapel (I was absent at Poona at the time), and got through them without difficulty. The following forenoon he was seized with the cholera, and before daybreak on Tuesday he had breathed his last. His bodily sufferings were most acute, but

his mind was kept in perfect peace, stayed upon the Rock. Ah! when shall I have such another brother and fellow-labourer? He was indeed a helper in Trinity Chapel. The Sunday following his death Trinity Chapel presented a most solemn and affecting scene. The pulpit and reading-desk were hung with black; many of the congregation wept audibly, and scarcely one person had a dry eye. It was with much difficulty I got though the services. May the Lord sanctify this dispensation to us all!

'That horrible perversion of truth, Tractarianism, is, I trust, making no progress here. What a cheating of men's souls to put them off with anything but *Christ!* The word of prophecy clearly shows that a fearful time is close at hand. May we be found looking for that blessed hope, and the glorious appearing of our great God and Saviour Jesus Christ. How many seem now to be awakening to this hope! . . . Farewell! Grace and peace be multiplied to you and to your household. "God is faithful." Our united kindest regards to Mrs. Jervis.—Believe me, yours in Christian affection.'

The Rev. Dr. Wilson to Major T. B. Jervis.

'10, DANUBE STREET,
'EDINBURGH,
'*August* 16, 1844.

'MY DEAR FRIEND,

'This is the first moment of leisure which I have found to write to a friend since my return from Ireland. I have not, however, been unmindful of the matters referred to in your letter of last month. . . . I am happy to say that the second number of the *North British Review* is as great a favourite as the first, and that there is not the slightest doubt of the complete success of the undertaking. I should be delighted to find that you took up the affair of regularly contributing in real earnestness, and that you deliver yourself of your accumulated stores of geographical and general knowledge to your own advantage and the profit of the

public. I am sure that in the quiet of your study and the bosom of your home you can do much for the glory of God and the welfare of men.

'I have seen Dobbs' relief map of Arabia Petrea. It is really beautiful, and tolerably correct. Get it, if you please, for Nágpúr; get a copy also for Nágpúr of any other similar raised maps which Dobbs may have. Oblige me also by purchasing for the same station a magic-lantern for astronomical purposes, such as that you got for Bombay, and any other articles of apparatus which you may think fitted for the new institution at Nágpúr.'

To the Rev. Dr. John Wilson, Edinburgh.

'9, REGENT'S VILLAS,
'LONDON,
'*September* 10, 1844.

'MY DEAR FRIEND,

'I am very much obliged for your kind letter. I have purchased a very beautiful and complete apparatus for the exhibition of the astronomical phenomena. It consists of two large lanterns and the accompaniments, to show the dissolving views, which, if necessary, may be made a source of great entertainment by the addition of some pictorial slides hereafter. I have also purchased a very pretty solar microscope and a fine telescope for observing Jupiter's satellites and Saturn's rings, mounted on a brass stand; some little boxwood sections of the various geometrical solids and other little articles, all of the best kind, complete. I have been at great pains and thought to procure such a selection of apparatus as should fulfil the object of the donor and the institution. Also two raised maps of Arabia Petrea, and two raised geological maps of England, as well as a fine copy of the large geological map of England and Wales by Mr. Greenough, made for the Geological Society, for the Nágpúr Free Church Mission.

'Yours very affectionately,
'T. B. JERVIS.'

From Rev. Dr. John Wilson to Major T. B. Jervis, on receipt of his work, Baron Hügel's "Travels in Kashmír and the Panjáb."

'10, DANUBE STREET,
'EDINBURGH,
'*January* 3, 1845.

'MY DEAR FRIEND,

'The moment I received your volume, which is got up in admirable style, I set off to the house of Dr. Walsh. Though the last day for receiving reviews for the next number of the *North British* was over, he gave me three weeks to prepare an article. I was punctual to the day, laying aside my own work in the interval, from the regard which I bear to your enterprise, and I have now the satisfaction of informing you that I have corrected the last proof, and that on February 1 all will be duly forthcoming in London. My article occupies twenty-seven pages; had time permitted, I should have made it forty.—I am, very affectionately yours.'

'*To the Rev. Dr. Wilson, F.R.S.*

'FLORA VILLA, AVENUE ROAD,
'LONDON,
'*February* 12, 1845.

'MY VERY DEAR FRIEND,

'I cannot express to you the great delight I experienced, and those also to whom I read aloud the review of my work in the *North British*—my dear wife and a young lady, Miss Holmes, for whom we both have a great love, for her deep interest in the cause of the Saviour and the Jews, and, lastly, my own intelligent little daughter. You have grasped and epitomized all that was worth knowing on the subject in so masterly and delightful a manner that I have got a far clearer view from it of the Baron's real merit and the happy selection I had made of my preliminary volume than I could ever have hoped for elsewhere. It adds one to the many proofs that the spirit of the *North British Review* is Christian in its character, elegant and chaste in its literary composition, and calculated to do great and

honourable service in the cause of that brave and noble band, the Free Church of Scotland. I hate—we both hate—sectarianism, or any breathings of uncharitableness, and I love and estimate its writers more on this ground than any others.

'Next, my dear friend, I sent you a copy of the testimonial of your election as Fellow of the Royal Society, and a noble testimonial and well supported it was, by Dr. Buckland, Murchison, President of the Geographical Society, and Greenough, President of the Geological Society. One Thursday the Royal Society meeting was put off for the death of the Princess Sophia. Another meeting day I went down, and the old dame, the porteress at the door, said, "Oh dear, Mr. Jervis! his good Majesty Charles the First was martyred to-day, and you are not the only gentleman that has been disappointed and had a long walk for nothing to Somerset House." The set day at length came, and I was at my post, Sir John Lubbock in the chair, and I rejoice to communicate to you the tidings of your admission into the long list of 750 fellows, some eminent for taste, others for talent, and on the whole the most remarkable men in Europe of the present generation, or perhaps any in modern times. The honour of your election is mutually yours and that of the great public body, and I always think that a grain of good salt thrown into the leaven will correct many acidities, and give a wholesome zest to the discoveries of intellectual knowledge in these remarkable *latter days*, when we are told that "Knowledge shall be the stability of thy times" [Isaiah xxxiii. 6]. . . .

'I can command every variety of work—woodcutting, lithography, copperplate engraving of every kind, and, in fact, all the known processes of illustration for maps, drawings, designs of any sort—among the little establishment which I have got together, in the very best style of art. . . I have first-rate assistants, of course, but you know what the directing mind is in all establishments and with workpeople, and I now have got all the subject clearly and fully before

me. I have no mercenary or private objects in view; I seek only to bring my utmost powers and best and simple services to the foot of the dear Redeemer, not looking greedily to gain; all that expense will be at once cut off and saved. . . . This establishment is available for, and devoted to, the great cause of public education and the missions, and to carry out any great objects of Government which may be entrusted to me. . . .

'Judge what a vast reform such a press and establishment would work in all public offices—uniformity, punctuality, certainty, and a more satisfactory security to Government, the public, and individuals. On looking over some of these forms, the gentleman at the head of the Custom House of London observed, "What a grand thing it would be to have the like system introduced in *this* country! and how much fraud, collusion, trouble, time, and expense it would save if every public office, this especially, had a cheque counterpart of every document issued from it of goods, money, permits, passes, etc., and if the Custom Houses of every colony, India, and Great Britain should be uniformly on the same model!" These forms are gone to India, and, by God's blessing, will tell what I could do if well supported.

'Next, I have myself sent out a lithographed post-office money order, of which I bethought myself as an admirable recommendation to Her Majesty's Indian Commissioners, to the Court of Directors, and to the Government of India. It is, of course, merely a sketch *in petto*. You know better than I can tell you if a poor servant or sepoy wishes to send a small sum from Kashmír or Dehli to Cape Comorin or Malabar, he can do so by *húndi*, but they lose by the exchange, and my device is to cut off this loss in the first instance. Next, the greater part of such little remittances are made through private channels. How much fraud, dishonesty, untruth, murder, Thuggí, etc., is occasioned by the remittances so made!' Our dear friend Nelson, an experienced retired judge of Malabar, when he first cast his eyes

upon it, said, "How many a murder will this save!" Besides this, let us reflect further that for want of the means of readily remitting the smallest sums, and the certainty of their speedy, prompt payment under the guarantee of Government, the poor native squanders his little earnings, instead of saving, and blessing thousands of aged, sick, and poor. To supply such a want would enlarge the bonds of affection, encourage the noblest duties, and give the true character of a *paternal Government*, and I trust this will be appreciated and blest to India.

'I close this letter by sending notice of a contribution of books for the Free Church libraries at Calcutta, Madras, and Bombay, and one for yourself, which I asked our dear friend Colonel [afterwards General] William Miles* to give you.

'God Almighty, of His infinite love, and for the sake of His dear Son, bless, guide, and keep you, pray your affectionate friends,

'T. B. JERVIS and A. S. JERVIS.'

While in Edinburgh Dr. Wilson wrote to Major Jervis:

'10, DANUBE STREET,
'EDINBURGH,
'*May* 17, 1845.

'Let me remind you of the time of meeting of our Free Church General Assembly. The sittings commence on the 19th instant. Miss Bayne and I have reserved a room for you, and delighted shall we be indeed if we have the privilege of having you under our roof. The proceedings of the Assembly will gratify you, and refresh your Christian spirit. You will have the opportunity of making the acquaintance of some of the greatest and best men of Scotland, and seeing the most lovely city in Europe. I shall be delighted beyond measure to point out its beauties and institutions to you. I do hope that you will be able to come.

* Like his son, Colonel Samuel Miles, an eminent Orientalist, he translated 'The Shadrat ul Atrak, from the Turkish'; London, 1838, and the 'History of Hyder Naik, from an original Persian MS.'; London, 1842.—ED.

'Dr. Chalmers has intimated his intention to withdraw from public business; he will remain, however, at his post as Principal and Professor of the Free Church College, and give us his invaluable advice when called upon.'

'EDINBURGH,
'*March* 21, 1846.

'MY DEAR FRIEND,

'. . . The printing of my book is now proceeding, and beautiful work Mr. Constable is making of it. I have got a good hand to execute my woodcuts, which are numerous. Johnstone is proceeding with my map. I am extremely busy in forwarding the work. . . .

'I most sincerely and prayerfully sympathize with you in all your trials and afflictions, and with Mrs. Jervis in the serious accident which you mention. I trust that the Lord will graciously direct and assist you in reference to your future destiny. Study the leadings of His providence, and commit yourselves to His disposal. . . . Grieved shall I be to be beyond the reach of regular communication with a friend whom I have loved so sincerely and affectionately. It will be a matter of great regret to me if you are not able to make your acquisitions bear on the *East*. Be sure to let me know early how you may determine. . . . Let me always have your address.—Ever yours, affectionately and faithfully.'

From Devonshire Major Jervis wrote to Dr. Wilson:

'DARTMOUTH,
'*November* 27, 1846.

'MY DEAR FRIEND,

'. . . I ought to have long since written to assure you of the kind sympathy in which my little family all unite on the occasion of your marriage. I received two cards about the same time, when my wife and I were both ill; indeed, I was so seriously indisposed that I had some doubt of my soon rallying. Mrs. Jervis's ailment, I am sorry to say, precludes her going out of the room. . . .

'But my heart and my wife's are with the Free Church, and the noble people who began the first great movement in the Christian world—I cannot but think, preparatory to that universal religious movement which will sweep away all distinctions of sects and party, and bring into one holy bond the servants of the Lord Jesus.* Often do I think, "May I live to see that great and blessed day, and be found with my little family in the number of those to welcome our Master's triumphal coming!" Scotland has *begun* a work of which few, even Christian men, seem to understand the nature or the extent. You may rely on it, it is no half-measure, but a movement at which its warmest advocates will hereafter look back with astonishment. When we think of the Gospel seed sown in the times of wild and ignorant heathenism by a few poor fishermen and their lowly but Divine Master, we may form some better idea of the almost terrific movement, I might say, of the Lord of all power and might, commencing to resume His great authority by the instrumentality of great talent, and all the resources of wisdom and energy, in an age which is far in advance of the former in intellect and the mightiest efforts of the human mind. The weapons, the instruments, in such a warfare will be of no common kind, and the daily instances of philosophical discovery, of the putting forth of new elements of worldly knowledge, serve only, to the Christian's eye, to convey a stronger idea of the gigantic powers that will be employed by the Saviour of the world.

'Happy are you all, I think, my dear friend, who have been called to work in the Lord's vineyard as missionaries, by a selection from a larger class. I pray that God may strengthen your hand and your heart for His great work, and rejoice that you have a partner who can share your joys, and administer a word of peace to you in your many

* It is peculiarly remarkable that the first meeting of the Evangelical Alliance had been held in London a few weeks previous to the date of this letter, and of the most modest proportions.

weighty cares and sorrows. I must tell you that nothing has been so much at my heart as to have many opportunities of meeting our old kind friend Dr. Smyttan, and chiefly of the privilege of converse with the venerable Dr. Chalmers.

'I am suffering while writing this the most excruciating pain from, I fear, the *tic-douleureux*. Pray excuse my bad writing; my hands are not so able as my heart, which is full of kindness to you; and with our kindest love to yourself and Mrs. Wilson and Miss Bayne, believe me, very sincerely yours.'

From Rev. John Wilson, D.D., F.R.S., of Bombay.

'35, LONSDALE SQUARE,
'ISLINGTON,
'*June*, 1847.

'MY DEAR FRIEND,

'I am here till the end of this week with Mrs. Wilson on our way to our adopted home in the far East. I was glad to get in motion, after the confinement and over-exertion caused by my carrying my work on "The Lands of the Bible" through the press. That work is to be published on Saturday; it is in two thick demy 8vo. volumes. Let me know without delay how I can send you a copy, as a token of unfeigned affection and regard.

'. . . I was ardently wishing to find you in London, to give you a shake by the hand before leaving. Though Mrs. Wilson* has never had the pleasure of seeing you, she *knows* you well from her husband. She unites with me in the kindest regards to you and Mrs. Jervis and the young folks, and I am, my dear friend, ever yours very affectionately.'

To the Rev. John Wilson, D.D., Malta, en route to India.

'8, RICHMOND HILL,
'CLIFTON,
'*August* 9, 1847.

'MY DEAR AND HONOURED FRIEND,

'Just after you left this, I have been again laid upon a bed of sickness, from which I am now slowly recovering,

* His second marriage took place in 1846 to Miss Isabella Dennistoun.

though far from well, or I should not have deferred writing so long. I can express very imperfectly my regret at parting with you, when I see so little human probability of our again meeting in this world [they never did so meet], and when I think that it is one man of the very few here who know or feel interested about me and my family. I am, comparatively speaking, not very far advanced in life, and yet can count scarcely three or four now living whom I have known in my younger days—certainly within accessible distances—and such as remain, who are dear to the Lord, are precious indeed. I shall always continue to devote, and with more earnestness, my humble prayers to God, that your path through the rest of your days, and that of our dear friends engaged in the like great missionary field, may be made abundantly joyous in its fruits, and in all its labours be cheered with the assurance of the Holy Spirit, gathering in day by day some souls to the fold of Christ.

'Great events have passed during the interval of your former residence in India, but they will be as nothing to those which are coming on, I feel assured, whether as respects this country, Europe, or India, and the lands of the heathen.*

'Dr. Duff's last accounts are most delightful, and from what I learn of Bombay there is a glorious change coming on there. Go forward with the great work, and God will bless you and your labours, and in the intervals of leisure carry on the next great work—"The Lands of the Heathen," or heathenism, or Antichrist. A sequel to your "Lands of the Bible," in regard to the spirit and character of God's own people, of the fruits of the Word, would be deeply interesting. You have given the *monumental* evidence; give now the *living monuments*, and divide the heathen or artichristian world likewise into the descriptive, geographical, or monumental, and the living evidences. To you this might be easy, while it would throw so clear a light on the

* A few months later the flames of revolution spread all over Europe.

loving, yet awful, character of Christ—of God—in respect to the servants and enemies of Christ, and I believe none but you can take so deep and comprehensive a view of error, all that is opposed to and exalteth itself against Christ.

'You know my view of Antichrist, that it does not take in only the Church of Rome, but both that and the Greek Church on the one hand, and Mahometanism, with all the forms of pagan idolatry, on the other. Here there is a field of indoor labour from the heat of the day, while you will be searching the mind of the heathen for their arguments, their subterfuges, their delusions, their sin, to detect and expose and set them forth in the full blaze of truth's light, and may thus counteract them with the Gospel, and be better armed, and arm others after you, to combat the difficulties and infinitely varying deceitfulness of false religion. In such intercourse many a soul might be brought to Christ, and in reasoning of a change of heart, a judgment to come, and the only merits of the Saviour Christ Jesus, furnish you with a rich reward of satisfaction and peace.

'I am sure, dearest friend, that your lot will now be happier than of late years, with dear Mrs. Wilson to smile on all your hours of retirement, and attend you in your arduous pilgrimages, for if I have experienced some losses of friends, you will have to reckon many also, and scenes and circumstances will often bring to mind the places where they have trod, or the matters in which they have been connected with the great mission work. May the Lord bless and keep you both safely in His arms, and give you many occasions of rejoicing.

'I shall endeavour to send you a letter every mail, with a full account of all that I think interesting in Europe, and as far as my little horizon extends, which is far more expansive, with the eye of Christian love and faith, than the men of the world could believe.

'Another Parliament has commenced a fresh portion of affairs in the religious as well as the political world, and a

fearfully critical one too, and I doubt not it will have its influence extending to India—unseen, but not therefore less great. . . .

'May the Lord abundantly bless you and Mrs. Wilson, and your young friends Dhanjibhai and Hormazdjí, to whom I beg my kindest remembrances, and I hope, so long as we may be permitted to remain here below, that we may often record some grateful recognitions of sincere Christian brotherhood and sympathy. My dearest wife and children join me in like regards.—Your most affectionate, sincere friend.'

Again Major Jervis writes to Dr. Wilson at Bombay:

'ATHENÆUM CLUB, PALL MALL,
'LONDON,
'*February* 7, 1849.

'MY DEAR FRIEND,

'I received a few lines from Whyte, to say you were again recovering your health, and I am still hopeful that the Lord may be pleased, in His rich mercy, to spare your life for much active and valuable service in His great work in India. I wrote to entreat you not to expose yourself, or to attempt too great exertion, but rather look on and direct others with your mind and heart. The smile of encouragement, the word of counsel, and the presence of God's dear servants, will effect much more than their own personal engagements in the cause of love.'

'8, RICHMOND HILL, CLIFTON,
'BRISTOL,
'*March* 6, 1849.

'MY DEAR FRIEND,

'. . . It is a matter of deep solemnity to view the present condition of the once civilized nations of Europe struggling against the spirit of despotism, infidelity, and sin, and brought at frequent intervals to see God, as it were, in His great and awful arrangements for the annihilation of that great antichristian power and all His enemies by their own hands. It is scarcely possible for any mind to keep pace

with events which crowd in upon us so thickly as to preclude any correct anticipation of the future, save what we gather from Scripture. The Government of England is standing paralyzed and aghast at the position of responsibility and difficulty it now occupies in regard to the government of its colonies, the true nature and office of its established Church, the old thorn in its side—Ireland, with an exhausted exchequer. . . . And the state of religion throughout our land is gloomy in the extreme; the Puseyites are everywhere manifesting a closer alliance with Rome. . . .

'I ought not to omit to mention that we all always pray for you—for all the Lord's dear missionaries, morning and evening, and indeed my soul is in your work in all affection. . . . I pray that your dear wife may experience all the comfort of a Saviour's kindness and sympathy, and not find it to have been a misjudged step to have served in the Lord's dear family in a land of darkness and eventful Christian enterprize. We trust also that your dear friends Hormazdjí and his brother in the mission are both blessed in every sense, and a blessing and comfort to you. . . .—I am, your affectionate, attached friend.'

Thus did Thomas Best Jervis stay up the weary hands of the missionaries, as Aaron and Hur did those of Moses. Contemporaneously, his friend Krishná Banergia, a native Christian clergyman, at Calcutta, first suggested Zenana teaching: 'The custom which anciently prevailed in the Greek churches of instructing female catechumens in their own apartments . . . is undoubtedly entitled to the most serious attention of the friends of humanity. An association may be formed upon an extensive scale, and with every possible provision against unnecessary offence to native prejudices, and suitable tutoresses of age and experience may be entertained, for the purpose of carrying the light of European knowledge into the Zenanas of the Hindús.'*

* Rev. Krishná Banergia, minister of Christ Church, 'A Prize Essay on Native Female Education.' Calcutta: Bishop's College Press, 1841.

CHAPTER IX.

CORRESPONDENCE RELATING TO THE MEANS MOST FITTING TO BE EMPLOYED FOR THE EDUCATION OF THE NATIVES OF INDIA.

'Large, England, is the debt
Thou owest to heathendom—
To India most of all, where Providence,
Giving thee thy dominion there in trust,
Upholds its baseless strength.

* * * * * *

'To England is the Eastern Empire given,
And hers the sceptre of the circling main;
Shall she not, then, diffuse the word of Heaven
Through all the regions of her trusted reign—
Wage against evil things the hallow'd strife,
And sow with liberal hand the seeds of life?'

SOUTHEY.

SUCH is the enlightened, generous spirit, and such the beautiful tone, manifested by the young officer (then only twenty-eight years of age) in drawing up his report on public education for the Konkan, that it deserves handing down to posterity, as one of the earliest landmarks in the all-important history of the efforts made for the moral and intellectual welfare of our Indian fellow-subjects. It is not easy to trace rivers to their source.

Mr. Dunlop, Collector in the Southern Konkan, writes to the Chief Secretary to Government, at Bombay, in reply to demands made of him:

'SOUTHERN KONKAN COLLECTOR'S OFFICE,
'*September* 14, 1824.

'SIR,

'In acknowledgment of your letters, numbers 364 and 1271, of 1824, requiring information respecting the practicability of increasing the number of village schools, and generally on the education of the native population, I have the honour to acquaint you that Lieutenant Jervis kindly undertook to report on the subject. He has already devoted much time and attention to improving the system of education, and this seemed a favourable opportunity of comparing and combining the voluminous information collected by himself with that contained in the reports of our native revenue and police officers. I therefore gladly embraced his offer, and have now the pleasure to transmit his report.

'The peculiar interest felt by Lieutenant Jervis in this cause has induced him to bestow great pains on the preparation of his report. His account of the present state of native education, the particular details of the system, method, and course of instruction, both of Hindús and Mahometans, with their defects, and the means of obviating the latter, and of improving on their economical and simple methods of teaching by the introduction of emulation amongst the scholars, *of moral lessons, instead of senseless lists of titles and attributes, and of improving their faculties by rational instruction, instead of filling their memories with long formulæ learned by rote, without much reference to their meaning or application, are particularly interesting*, and the effects of these improvements are in a fair way of being practically exemplified in the Native Society's schools at this station.

'The plan mentioned in the fourteenth paragraph for training useful teachers seems of the greatest importance, and appears particularly deserving of encouragement and assistance from Government; it may be conceived as *the foundation on which improvement may rest.* The want of a general spirit of inquiry, and the consequent difficulty of

diffusing the knowledge of improvements, preclude all hope of our accomplishing our object except by the slow operation of *example*, and the superior progress of scholars under competent teachers appears to me the only prospect of weaning natives from their bigoted attachment to their own customs.

'There is a great difference between native and European feeling, which must materially influence the effect produced by any measures for the encouragement of education that may be adopted by Government. In Europe people are lowered in their own estimation, and that of society, by receiving assistance from charitable establishments; men's feelings revolt from the notion of dependence in any shape; they feel a pride in providing entirely for themselves. But in this country the immunities attached to the privileged castes having given a different direction to public feeling, exemptions of every description are regarded as privileges. Instead, therefore, of considering himself lowered by receiving charity, a Brahman would be apt to view the gratuitous instruction of inferior castes with jealousy, as an *infringement of his privileges*, if himself required to pay.

'This circumstance will be a considerable obstacle to all plans for introducing different rates for rich or poor scholars. One case was mentioned by Mr. Jervis, in the nineteenth paragraph, of a school breaking up entirely in consequence of such a proposition. It will therefore be necessary to avoid all distinctions in whatever may be attempted, and *I concur in the opinion expressed by Lieutenant Jervis*, in the twenty-eighth paragraph, *that it would be preferable to establish free schools*, and leave the present ones entirely to themselves, and, except in cases of applications from themselves, I do not see even how we can supply them with books. But such is the easy tolerant spirit of Hindúism that the smallest temptation seems sufficient to induce them to use *even our religious books* for their children, so long as the act is left perfectly voluntary; if, therefore, good books could be pro-

vided as cheaply as their present expedients for teaching, I think they would use them without much regard to any other consideration.

'*The plan proposed by Lieutenant Jervis seems in every respect better than any other I could hope to suggest;* the only question appears to be the extent to which Government might be inclined to carry the experiment, since there is so little prospect of deriving assistance from any other sources.

'Considerable difficulty would be experienced at first in procuring competent teachers, and it seems doubtful how far the full benefits of the plan could be realized by the employment of persons not properly qualified; there might even be considerable risk of bringing discredit on the whole system. I would therefore for the present suggest that, if Government should determine to adopt the proposition, its introduction be confined to such a number of schools as the superintendent may be able to provide with well-qualified masters.'

The following extracts from Lieutenant Jervis's report on education are here given, to exemplify the extremely useful information communicated from his statistical researches, as specified in Mr. Dunlop's letter:

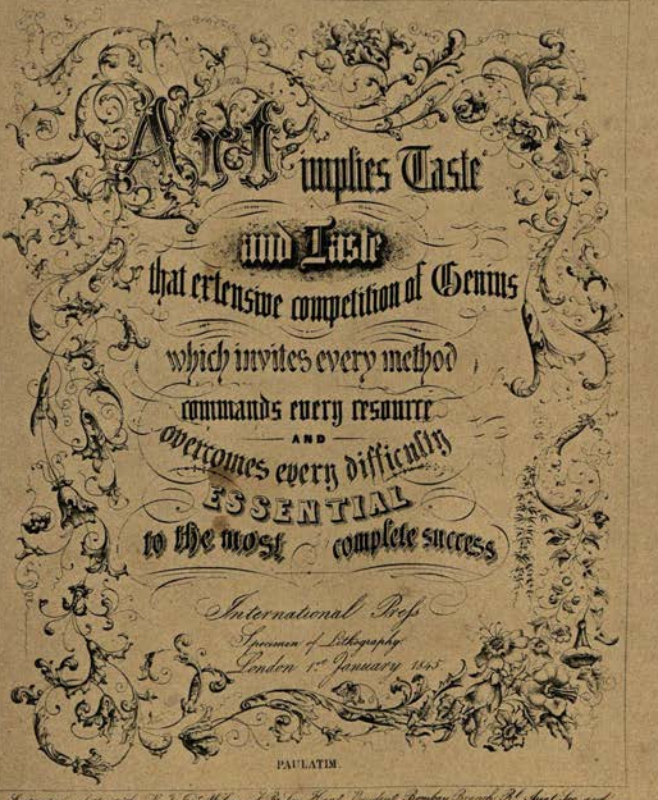
'*Paragraph* 32.—With the exception of public peons (police messengers), it does not appear that any inconvenience would attend the immediate and absolute restriction to public service to those only who can read and write correctly. Of all other classes it would be attended with a very great and general benefit to Government and to society. It is noticed in the above report how much the completion of education is neglected amongst the natives, and how much this is to be deplored. It might be provided with peculiar advantage and propriety that no public servant should be entertained without having thoroughly acquired all the elementary parts of education.

'*Paragraph* 33.—Whatever funds might be appropriated to the support of schools—whether shares of various *huqs* (immunities) and *inams* (free grants), now in the hands of Government, which were formerly seized by the *Potnís* (Government examiners of all the motley descriptions of coin received in the public treasury) in the Raigurh Talúka (district), as has been suggested to me, or, indeed, any other description of rights, grants, or charities, which from time to time have been sequestered and brought to account in the Government revenues of the country—it appears not only a practising of deception with the public authorities, but injudicious on other grounds. *A grant coming directly from our Government will carry with it a conviction that it is not our only wish to be considered as the conquerors of the country, but that the diffusion of happiness may accompany the security of peace and justice.*

'*Paragraph* 34.—Mr. Burke observed that "we cannot but regret, when we reflect that, if by any unforeseen calamity we were driven from our possessions in India, there would scarcely exist a vestige to mark the greatness and extent of our power." Whatever we might have done formerly, there can be no doubt that as our territories increase we shall be the better enabled to carry into effect any plans to secure to us the allegiance and gratitude of the natives of India. *The diffusion of elementary instruction, sound morality, and useful European science, is easy and desirable, and while they assist and strengthen, they will shed a peculiar lustre over our Government.*

'T. B. JERVIS,
'Lieutenant Engineers, employed on a statistical survey.'

'RATNAGÍRÍ,
'*September* 8, 1824.'



Extract of a letter to the Rev.d Dr. Wilson, F.R.S. &c. Head President Bombay Branch R.t Asiat.c Soc.y and Gen.l Missionary of the Free Church of Scotland to Western India from Major J.B. Jervis, F.W.I. on the means to be employed in the attempt of the national objects in India.

Lithographed at the International Press - 1st January 1845

a.d a.g., Geneva

EDUCATIONAL LITHOGRAPHY, EXECUTED
AT MAJOR JERVIS'S PRIVATE PRESS
Reduction (facsimile)

Printed in Switzerland

To the Right Hon. Sir Henry (afterwards
K.C.B., etc., Governor-General of India, M
from London:

'FLORA
'A

'RIGHT HON. SIR,

'You will forgive my presuming t
your high station, and with so many
Government; but I venture to do so on
from a belief that you will be pleased to
direct information on many points connect
of the administration of India in which yo
remarkable an interest, viz., public educatio

'I returned to this country resolved, as I was counsel
by all who had kindly honoured my exertions in India with their approbation, to do what I could for the cause of science and education, and the great public interests of India, in my capacity of a retired officer, with a seat in all the great institutions of this country. My love for geographical pursuits, the practice of all the artistic means in aid of these—lithography, engraving—as well as mathematics, determined me to follow out that course in which Major Rennell (late Surveyor-General) had particularly excelled. The beautiful art of lithography, which I had practised as an amateur since 1826, engaged my particular attention, and I executed the Bokhara and Bombay maps among the first, then a plan of Peking. From the very first Her Most Gracious Majesty, as also H.R.H. Prince Albert, have honoured my exertions with particular favour. I trained a number of persons to carry out my views, and formed a small band of artists to prepare and publish all that is known respecting the geography of Asia. In doing this I can only say that I have made a beginning, but for all that worthy of the attention and encouragement of those in power, as placing at their disposal an amount of in-

utmost consequence to the Government

in Bombay, my brother, Colonel George
f Engineer, conducted the newly-formed
. principally in aid of the objects of public
constituted the brightest feature in Lord
Hon. Mountstuart Elphinstone's Govern-
d respectfully add, with many great and
t not it also will in your own. I was also
y in charge of those departments, and it
part of our duty to suggest means by which
be promoted, improved, and brought within
ses, especially the native army. That, how-
perceived, was chiefly to be brought about
by the aid of good lithography—infinitely more pleasing and manageable as respected the Oriental languages than type-printing, and more consonant to the habits and prejudices of the Eastern nations generally; perhaps, on the whole, also a cheaper mode.

'The Persian, Maráthí, Gujaráti, and other works executed under my brother's eye at the press he superintended, were considered peculiarly beautiful, and the former ones found extensive circulation in Persia, where no one will so much as look on works printed in *type* in that character. There was one desideratum, however, we could not accomplish (and, indeed, the same remark applies to all other presses throughout India, not excepting those of Calcutta), viz., maps and pictorial illustrations, much as these were needed, and valuable as these appendages would prove to all educational, scientific, and other works published in India. They could not be done for want of artists, often for lack of materials, and for want of that proper remuneration which was due to persons so occupied. The officers of the staff and engineers alone understood the subject, and they were always so much occupied in their public duties as to be precluded from doing any large works. The Court of

Directors sent out a lithographer from t
believe, indeed, they have sent out two or t
times, but they have all died, sinking in pa
disappointment, and possibly under maladi
constitutions unsuited or uninured to Ind
just long enough to teach some person
lithography, to set some local presses to w
purposes of business, and to satisfy the
community of India of the immense value

'Had it not been taken up by a person
ingenious a mind as Colonel George Jerv
soon have been laid aside by the good fol
a sort of scientific undertaking, quite beyo
of ordinary minds to understand or practis
taught us to appreciate its application to Eastern literature, and its peculiar subserviency to the important designs then and now in contemplation in regard to public education. No sooner had he left this press, being called, in the ordinary rise of the service, to higher offices, than it gradually declined. . . . The persons sent out by the Court to direct this branch died, as I understood, worn out by vexations and disappointments. The engagements entered into with them were, in fact, erroneous in principle—to work at a *fixed salary*. Now, this is not the way to encourage artists, nor could anyone of eminence, unless most liberally remunerated, give all his time and mind to any pursuit. They received a *very small salary*, which at once fixed the individuals in a certain grade of society in a foreign land, and there held them exclusively bound to themselves. Then, there was no variety or prospect of improvement in contemplation; it was all pure official transcripts, writings connected with the common routine of Government; in this, therefore, nothing to cheer or please the taste—hard, dry *work*, the more the better, and no great room for excellence; it was simply treated as a convenient cheap substitute for copyists. The want of proper materials, of ink, varnish,

le stones, of presses, and of a sufficient and ordinary workmen on emergencies, caused nd disappointments which crippled and rposes for which the Court had sent these India.

a knowledge of the languages was a further o their usefulness in the educational line; ork might indeed be made by a native, but ook to the head of the establishment, and, s as little known to him as to anyone else. natives and foremen carried on the art after e principals by death, till M. Tassin, of Aix ne), France, came. He was the naturalist of ship, sent by the Government of his country to the Eastern seas in search of the *La Pérouse*. The vessel was wrecked in the Malayan Archipelago, and each betaking himself to the first port, M. Tassin proceeded, a friendless man, totally destitute, to Singapore, and was there advised by Mr. Moore to try his fortune in Calcutta. Thither he repaired, and tendered his services in any capacity to the Prinsep family. Mr. Henry Toby Prinsep, in a noble spirit of generosity, when no other occupation appeared to be open to him, hearing accidentally that he understood lithography, set him up at once with a loan of 10,000 rupees, and procured for him the execution of the work then most needed—the surveys of the Húgli and Ganges rivers, by his late brother, Captain Prinsep of the Engineers, and all the Asiatic Society's and Government work. At the end of nine years M. Tassin assured me, at his last interview, that he now retired from India to his native land with £16,000 made by his own industry in this line. His maps are very good, as far as the climate, large and certain payments, and all circumstances considered, would lead us to expect of drawing on stone.

'What advance the Government have paid beyond what they might have done for far better work, and what prejudice they have done by so limiting these productions that they

could not be commanded by the purse
India, and every British subject in this
question to put to those who advocate the
of lithographing works in India on the s
here by an officer of their own, thoroughl
the Oriental languages and other matte
maps, documents, etc., would be available
to this country.

'This was, therefore, one of the prima
own establishment: to prepare maps, illu
work, either of an educational or general
promote the designs of Government and,
fessed purpose of giving to them all that ac
and completeness which could be desired, w
everything as economically as possible. . . .

'In fulfilment of these designs, I have long been in correspondence with the Rev. Dr. Duff, Mr. H. Torrens, Colonel Garden, Mr. Henry Minto Elliott, Major Wilcox, and Dr. Wallich—all public characters of sufficient distinction to weigh with your Excellency in such matters; with the Hon. Mr. Chamier, Colonel Alexander, Adjutant-General, Captain T. Baird Smith, engineers, Mr. C. Bird, and Dr. Pearce, secretary, Medical Board, at Madras; with the Hon. Mr. Reid, Colonel George Jervis, Chief Engineer, Mr. J. P. Willoughby, and the Rev. Dr. Wilson, at Bombay; with Sir Henry Pottinger also, and the members of the Government in China.

'I wrote in the first instance to suggest the application of my lithography to the educational and Government objects at Bombay. His Excellency, Sir George Arthur, in consequence of that representation, called on the Military Board to report and state their opinion of my proposal. They reported favourably, and suggested a transmission of a number of the most complicated forms to be executed by me, forty-six of which have been forwarded to me accordingly. . . . I resolved to do a certain number, and show that I could produce for even less money and satisfy the

y adopting my plan three grand objects of inestimable importance—uniformity out India; great despatch and simplicity of public business; and an unimpeachable ed of every document; and while mis- ere inculcating a higher morality, the a systematic regard to the methods of ould be instilling a powerful incentive to and obedience to the great designs of the horities.

lithographed a number of these forms, ulted men of high reputation and great is country as to their value—Lord Ripon, whom, having been Chancellor of the Exchequer, there could not be a better judge, has been pleased to express his high approval; so also the Governor, Deputy-Governor, Chief and Under Cashiers of the Bank of England, and parties at the head of other departments of the administration of this country. . . .

'I thought it right to make the Court of Directors acquainted with all my proceedings, and, in handing up specimens of all I have executed, addressed to them a distinct proposition, which they have recently referred to the consideration of the Government of India, for which reason I have now ventured to forward this explanation, and to solicit your Excellency's attention to a number of these forms, which are considered of such value and interest that his lordship forwarded them without delay to your Excellency.

'The Weekly State Navy forms contain, in one volume, the reports for a whole year for a single ship. In one column all the military equipment is epitomized; in the second the subsidiary of servants, followers, and supernumeraries; in the third the stores, material, provisions, etc.; and in the fourth the state and history of the ship itself, its officers, and all other particulars. The document is intelligible to the humblest capacity; it is so simply and methodically drawn

up that a very unpractised officer might comprehend its purport and details at sight, and it might be filled in by any officer and regularly kept, week after week, in a few minutes. Being uniformly kept by all officers in command of vessels throughout India, correct copies might thus be transmitted with equal care and despatch at a trifling cost to head-quarters, and copies also to the Government, as well as to England, for the information of the Court of Directors and Board of Control, neither of which bodies, as I learn from the Chairman and the President of the India Board, receives or can get anything of the kind without a special reference, although these documents are frequently in great request. Thus an assurance is at once given by this recourse to a uniform system of forms that all the branches of the administration are put in full possession of every particular connected with the Indian Navy. The same system is applicable to every regiment and department of the public service, and all can be executed at a much lower cost than by the present mode of returns, restricted as they now are to the Superintendent of the Indian Navy only.

'I trust your Excellency will see sufficient in the value of these two branches of my labours—the translation of information connected with the geography of Asia from foreign European sources, of which Baron Hügel's "Travels in the Panjáb" is the first; and the maps and lithographed forms as respects the other part of my design—to engage your Excellency to give your warmest support to my humble endeavours, closely implicated as such are with the welfare and good government of India.

'There is one document in particular which I have ventured to suggest as involving questions of immense moment—a *Government Post-Office Order and Letter of Advice*, which, in the opinion of General Morison, late in the Supreme Council of Calcutta, several of the most eminent judicial authorities, formerly in India, and members of the Court of Directors, will go further to suppress murder,

crimes, and misrule, consequent on the transmission of money by private hands, than any other means.

'But it is chiefly in the application of all these branches to the illustration of educational works, and simplifying the various subsidiary means required in the Government schools and colleges in the vernacular languages, that the value of my establishment will be most extensively recognised, and it is my anxious desire to prepare them in the language and in such form as may place beautiful elementary works, like those we possess in our country, within the reach of every individual in India. . . .

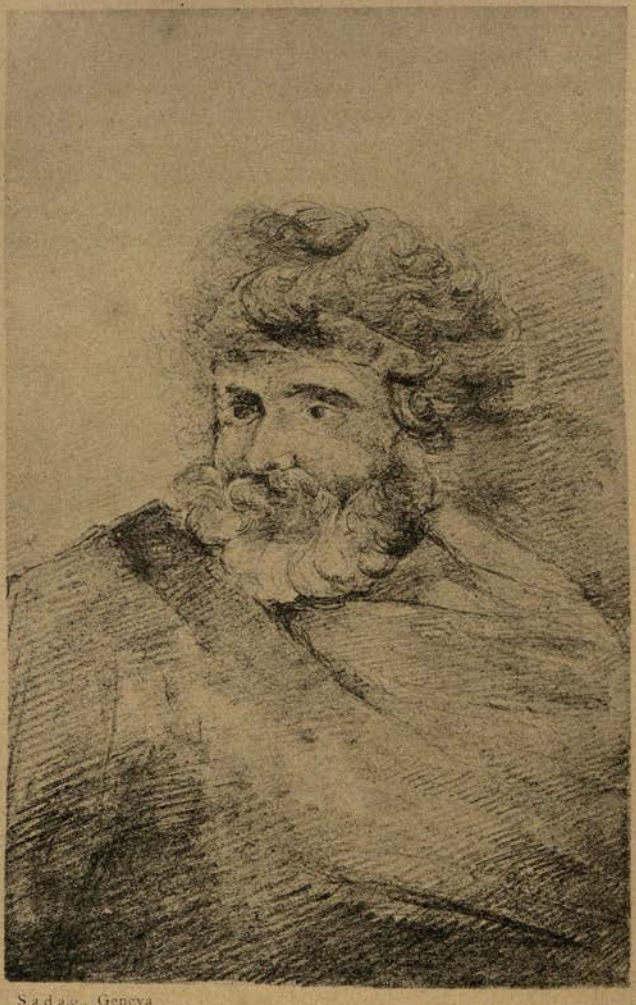
'The Court of Directors have now a distinct proposition before them, and have appointed a committee to examine the question, which will be transmitted to the Government of India. That question is: How far is it desirable to have the forms of Government lithographed uniformly by my establishment? Whether the post-office order should be adopted? and how far my presses and services may be available to public educational objects in India?'

From an official letter addressed to the educational authorities of the Bombay Presidency, many passages deserve to be extracted, illustrating as they do the sincere love Major Jervis had for the natives of India, and his appreciation of their great intellectual capacities, while the baneful influence of caste made the very Brahmáns scoff at the notion that Hindús of low caste were capable of development intellectually or morally.

To the Secretary of the Board of Education, Bombay.

'SIR, . . .

'4. The attention of the Government and the public generally has too commonly been occupied with the subject of instruction to the neglect of education, to the means of carrying out the former only, while the latter has been completely overlooked. These are, in fact, two very distinct questions: Instruction, the imparting of a knowledge



S.a.d a.g., Geneva

TODAWAR (ABORIGINAL) NILGIRI HILLS

Facsimile of a portrait from Nature by Captain Jervis

Printed in Switzerland

of facts and ideas; education, the right appreciation and employment of this knowledge. Bacon has taught us that "knowledge is power," but how few are there to whom power can be safely intrusted! The one, mere *knowledge*, is of no service—rather, indeed, a disservice, a dangerous weapon to put into the hands of any person without regard to the latter, and hence it was, as respected education in India, that the late Governor of Bombay, Sir James Carnac, in allusion to an individual in whose education he felt deep interest, observed to me with regret that "he was neither one thing nor another, neither a simple unsophisticated youth nor a thoroughly educated gentleman, but a shrewd scholar, without judgment and without principle." How far this observation might apply more largely from defects arising out of education in England might deserve a thoughtful inquiry.* That it has been well understood by those engaged in public education in India, from the peculiar constitution of Hindú society, there can be no doubt.

'5. In proposing any methods, therefore, for the advancement of education, the Educational Boards may well repudiate any imperfect or incorrect methods of instruction as leading to gross misconceptions of Nature and things; prejudicial to the first steps to truth, and the further advance from one truth to another. They will consider the diffusion of well-considered, simple, and accurate synopses of science of most extensive utility for such purpose, as calculated to invite inquiry, and instruct while they entertain readers of all classes and ages. *There is no individual, however obscure, beneath their consideration*, even of those apparently beyond the object or influence of the Board of Education, or entirely unconnected with them, nor do we know what good effects might not result from the first efforts of an improved elementary instruction in all these quarters.

* 'Dr. Dodd and Fauntleroy in our own country, Voltaire and Volney in France, are notable instances of talents so perverted.'—T. B. J.

'6. I am well aware that these opinions were not at one time generally entertained by the natives, and on more than one occasion respectable and intelligent Hindús, in speaking of the lower orders, have declared to me of the Ramúsís, Bhíls, and Kolís, that they were quite beyond the power of reclamation or improvement. I well remember a Brahmán, whose advanced age and known character otherwise commanded respect, pointing contemptuously to a poor Mang, and thus forcibly illustrating the same principle. He affirmed that no schooling, no education or method of training, would induce that wretched being to conform to habits of honesty, truth, social order, and subordination to authority—to submit, in short, to learn any good; that he would be, in despite of all such means, the same ignorant and brutish creature. But the very fact of the ingenuity of such persons in their wild sports, and feats of cunning or dexterity, their patient endurance of suffering, bravery, domestic attachments, and fidelity to their masters and chiefs, argues the highest probability of effecting the most salutary reforms through seemingly insignificant instruments. All these qualifications were acquired by study, and the process and means employed constituted their education, for want of a better. Many instances are on record of individuals from these inferior grades of Hindú society enlisting and behaving nobly in the ranks of the native army, and they would assuredly seek to better themselves by instruction, were such offered to them.

'7. I have merely adduced this extreme case, however, to show the immense importance of good education and instruction of all classes by means of elementary works and *translations from the European languages into the vernacular languages of India*, which shall reach the native mind in a vastly more extensive field than could ever be anticipated from the most indefatigable efforts of instruction through the medium of the English language alone.

'8. However excellent, indeed, instruction in the latter

may be, it must be comparatively limited, both from its expensive nature, the want of a high order of teachers equally conversant with the language of the people to whom the new language is imparted, and the far greater demand for elementary vernacular knowledge, suited to the ordinary business and exigencies of life, than a superficial acquaintance with a foreign tongue, serviceable only as a means of colloquial communication and a recommendation to Government employ.

'9. The impediments, however, to the publication of such elementary educational works, and an improved vernacular literature, as might go forth with advantage to every village and family throughout India, recommended by its sound practical utility, simplicity, and pleasing pictorial illustrations and maps, more especially by its cheapness, have hitherto been so insurmountable as to preclude any considerable advance. India, notwithstanding our occupation of it for a far longer period than it has ever been held, *in its present integrity*, by any Eastern dynasty, is still without any of those *characteristic* national benefits which have marked the dominion of its native rulers. If a wise administration of the revenues marked Akbar's reign, if the village institutions are the glorious records of a still more ancient Hindú sovereign, *sound and practical education, among other benefits, is peculiarly a feature of British rule, and may be extended to all classes, to the population of the districts, as well as of the chief seats of Government; to the army generally, to the degraded and unjustly proscribed aborigines, and in an especial manner to the females of every rank and class.*

'10. Without for one moment questioning the just value of the many admirable institutions at Calcutta, Madras, and Bombay, for imparting a thorough and correct knowledge of the English language, science, and literature, the statistics of education throughout India would present the most unquestionable evidence of the infinitely greater importance of the various vernacular schools. The languages there taught

will neither be superseded, nor disused, from any cause which has not operated, in an equal degree, with the Greek and Latin in former times, in respect of the languages of modern Europe. Governments may change, political institutions may be entirely remodelled, but language, in its radical structure and colloquial peculiarities, will subsist and continue pertinaciously to guard the ancient landmarks of nations.

'11. English schools must, of necessity, be few; but it is perhaps a duty to limit them to the Presidency, or, at most, to some few chief towns, and to bestow on such schools instructors of the highest intellectual attainments that can be engaged, and to furnish every possible means of a complete, finished education. Such a school as that founded in Calcutta by the Rev. Drs. Duff, Mackay, Ewart, and Smith—one and all persons of eminent literary and scientific acquirements, who have held a distinguished place among men of genius in Europe—must be of incalculable value, and send forth ripe and good scholars; but there are few; I should hesitate almost to affirm that there is no other such. I frequently visited and examined the scholars in 1840, then 679 in number, and would have pronounced *the general acquirements of the higher classes quite equal to those of our first-rate European schools* (Latin and Greek, of course, excepted). The same success has not attended our English schools at Bombay and Madras, which I think mainly attributable to the separation of the younger from the more advanced scholars, and the former not having, in consequence, the example and greater proficiency of their elder companions to stimulate their exertions.*

'Five of the students whom I saw at Calcutta in 1840, in Dr. Duff's school, have since come to England, and have gone through the ordeal of a public examination; and three carried off the prizes against many English competitors,

* Need it be said that this inconvenience, long since fully felt, no longer exists?—ED.

obtained high certificates of honour, and their diplomas as members of the Royal College of Surgeons of London. I rejoiced to be among the first with Mr. C. Trevelyan [afterwards Sir Charles], a noble advocate of native education, to congratulate them on this successful issue of Dr. Duff's labours. What hinders the Boards of Education sending home many others, from time to time, as Mohammad Alí, the sagacious Pasha of Egypt, has done, to be instructed under the direction and guardianship of some fit person in engineering, shipbuilding, medicine, and the arts of Europe? I returned to India in 1839 with Hassanin Bin Alí, one of a party of twenty youths thus sent for instruction in the English language and shipbuilding. This young man had resided eight years in England, and was as familiar with our national literature as many young men of his age of English parentage. He is now one of the Government shipbuilders at Alexandria.* Other twenty were sent to France, and brought up at the medical schools there. In the towns and villages throughout all India, beyond the Presidencies, Calcutta, Madras, Bombay, and Agra, it would hardly be credited there is *neither a bookseller, nor a chemist and druggist, neither a printer,*† *engraver, nor a clockmaker!*

'12. It is absurdly argued that this advance of intellectual and artistic knowledge will entail a multiplicity of evils, and bring about subversion of our Government—the very same cry that was echoed from every cell and convent of benighted Europe in the darkest ages of fanaticism and superstition.

* 'I may add, still further, that he is conversant with the Scriptures, and was, at the time I knew him, a humble and, I believe, sincere Christian. He had married an Englishwoman, as had also another of these students—his friend and companion—who, with their partners in life, daily united in domestic prayer. The bigoted Mahometans, at a later period, stimulated by anger at this conversion, represented it and accused them to Mohammad Alí, who coolly replied, "I want artisans and shipbuilders, nor do I care what religious opinions they entertain."'—T. B. J.

† Excepting the mission presses. This was fifty years ago.—ED.

Such opinions, however, will not find any abettors in this quarter of the globe; and if the means of easy and rapid communication by steam are ever to be effectual in India, all other improvements must keep pace with them, and the Government and public functionaries be prepared to give a satisfactory account of the progress of India at the expiration of the approaching charter in 1853, when the legislature will once again inquire what means have been employed to improve the circumstances of that country.

'13. Colonel George Jervis and Colonel Capon have shown how much may be effected by good translations.* But the greatest obstacle to the endeavours of the former and his successors, in the direction of the Native School Society of Bombay, has confessedly been the want of illustrations and maps, and the help of those highly improved processes of lithography and art which should place the works within the reach of the poorest persons anxious for improvement and instruction, but who neither can nor will avail themselves of the Government schools.

'14. As an instance of such a class of persons, take the female population of India, the majority of whose minds can never be reached by any other mode. Their condition has lately called forth some sympathy in India, and has long been adverted to with a higher tone of compassion by some enlightened minds in Europe, woman constituting there, as it is believed also she constitutes in England, France, and Germany, on the authority of the greatest men of the age, the *grandest instrument of national education*. Nor is such sympathy for this class to be measured by numbers, by the expressive voice of the multitude. It was a Howard, single-handed, who inculcated the imperious necessity for the reform of the treatment of criminals. It was Pinel, in France, who dictated the humane treatment of the insane. It was Clarkson and Wilberforce who pleaded the cause of

* We know of seven volumes on mathematics translated by Colonel George Jervis into Maráthí, and eleven into Gujáratí.—ED.

the slave. Victor Cousin and Baron Cuvier pointed out to the great Napoleon the value of the instrumentality of females in the work of public instruction. Dr. Wilson and Jameson, Mrs. Wilson, and others, I believe, more recently within your own hearing, advocated the cause of the females of India.*

'15. It is not with them, however, be it remembered, a question of great learning or high scientific acquirements, but of plain, sound, useful, elementary instruction in the use of natural and easy appliances, which will be the surest means to draw forth the female mind from a state of mental darkness, low sensuality, and trifling indifference to their condition; and *to raise the mother and her children around her in the estimation of her companion—man.* All which may unquestionably be hoped for from a judicious exercise of those powers and means within the reach of the Boards of Education in India. Female schools have ever been most ungraciously received in Eastern countries, and most sparingly attended. Let us place before the native mind a number of pretty, simple elementary books, and works well illustrated, cheap, and easily procurable, and you will provoke a spirit of inquiry which needs only to be tested to prove its existence. That is one first step in this great work of female emancipation, and will be speedily followed by the employment of females in other than mere menial or degrading occupations; and they will thus be led to value aright their proper position in society.

'For good or for evil, the influence of women in private and domestic life is incalculably great. The more ignorant, the more degraded and superstitious, the more pernicious and operative will be their example on all connected with them by the dearest ties of relationship. What power educated females have exercised at Courts in matters of state and public life may be inferred from the character of Ahalya Bai† and the wives of the Peshwas, and of many of

* Zenana missions are of later institution. See p. 165.—ED.

† Sir John Malcolm's 'History of Central India,' vol. ii.—T. B. J.

the Mahometan sovereigns and nobles. To such persons instruction was not forbidden. Who has not often wondered at the active and large share the females in France now take in transacting all the pecuniary business and keeping the accounts of trade, and that even in banking and great mercantile affairs? In our own country, as on the Continent, the press teems with some of the finest productions of taste and genius from the pen of female writers. Had the education of females been proscribed in Great Britain and America, the sweet poetry of Mrs. Hemans and the instructive thoughts of Hannah More would have been utterly lost to the world and their sex, and those gifted women passed to the grave unknown; the bust of Mrs. Somerville would not have graced the library of the Royal Society, nor the statue of Mrs. Siddons have found a place among those of kings and warriors, and the public benefactors of our country, in Westminster Abbey. In fine, if *there be any of us who can revert with grateful pride to his first impressions of virtue, he will probably recall a mother's name, or that female from whose lips he received the first impressions of duty.*

'16. I may observe briefly that I by no means contend for the education of females beyond their own homes, which is generally considered, even in this country, fraught with serious objections. On the contrary, the propositions now offered to the Board's consideration suppose *home education*, or something approaching to it, by the dissemination of good elementary works of all kinds in the vernacular languages.

'17. Another interesting evidence of the value and influence of good educational works in the language of the country is that of the seamen and traders from foreign countries frequenting the ports of India. My lamented friend, Sir Alexander Burnes, mentioned to me, on his return from his first travels, that he found the *nagodah* (pilot) of the vessel so well skilled in mathematical calculation that he questioned him as to the source whence he had acquired

his knowledge. In reply, the *nagodah* referred him to a translation of a work of Colonel George Jervis's which he had purchased at Bombay—a proof, this, that no endeavours or means should be undervalued. *Practical utility* is the first measure of value to those who are in need; the easiest means of attainment, secondary only to this quality. All the knowledge we require comes under these categories.

'18. I now proceed to add my own view of the means of giving further effect to such good beginnings as have already been made, by way of illustrations, maps, the details of printing, etc., in which my best services are tendered to the Educational Boards, the conduct of the details of business being left to the publisher and bookseller.

'19. If, then, the educational bodies and societies were agreed to act in concert—and such a measure is perfectly practicable—many expedients might be employed to diffuse a greatly improved system of instruction in the elementary vernacular schools, as well as the colleges and English schools, by means of illustrated tables, pictorial maps, and schemes, lithographed uniformly, which might be printed on thin paper and pasted on mill-boards. By pictorial maps I mean maps with illustrated views, or portraits of remarkable individuals, around the margins, as used in the educational maps on the Continent, and very generally in America.

'20. These pictorial illustrations may commence with clear, simple first principles for reading, writing, and arithmetic, and the outlines of geography, history, and general knowledge. All which I well know from experience, and from having visited a very great number of schools, public and private, in Calcutta and Bombay, are imperfectly taught. Hitherto a few sheets only of the letters and their combinations in the different languages have been printed in Bengal at the Baptist Mission Press, and some alphabetical characters also lithographed at Bombay; but these are expensive, and have no resemblance to the beautiful tables used in all

our own national schools, and in the Continental schools of France, Germany (especially of Prussia), etc. Good pictorial tables convey at once an impression of certain objects, and raise a thousand questions and ideas in the minds of little children, which may be turned to the best account by teachers. They serve to fix the attention also, and entertain while they instruct.

'21. If such tables were drawn up on a uniform system, and then translated and lithographed in the various languages of India, the cost of any illustrations, spread over a large number of impressions, would be very trifling. I have a set of the combinations of letters, printed at the Baptist Mission Press, Calcutta, in the Bengali character, in twenty sheets, folio, which are generally used in the elementary schools in Bengal with the greatest advantage. The cost of these is about a rupee. Another of the like combinations of all the letters in the Hebrew, in fifty sheets, used in the Jewish schools throughout Syria, at Smyrna, in the Greek islands, and in Hungary, was placed in my hands to be lithographed, and cost twenty-five shillings the sheet, from which an indefinite number, some millions of copies, might be struck off at a small average cost by means of the steam press, not exceeding the cost of the twenty sheets printed in Calcutta.

'22. A set of tables, the first of simple letters, the second of words and sounds of two letters, the third of words of three letters, and so on, to words of many letters and syllables, might be very correctly and beautifully written out, the first sheet noting the distinction of vowels and consonants in their respective classification of gutturals, labials, dentals, etc. This would lead to a general method of spelling, and rightly dividing and pronouncing words, a matter in which the natives themselves have no rules, while to the latter very little concern is ordinarily paid by the Europeans who superintend the preparation of educational works in India, the language being foreign to them. Pro-

vincial or other differences of pronunciation, therefore, are not readily perceived by us, though such are critically observed by the natives themselves, and may be traced to this defect. This also is the reason why the natives can so seldom read a manuscript paper, or book, fluently.

'23. Sentences inculcating order, attention, obedience, truth, mutual forbearance, hope, etc., in large characters suspended in the school-rooms, often make a striking and permanent impression on the minds of children. As copies for writing, they would be still more generally remembered. Such may exist, perhaps, here and there in some shape. That is not what I would contend for; it is rather to have all exactly alike—of undoubted excellence in their purport, and stamped with the authority of judicious consideration—whether in English or in the native languages, and in *every case beautifully printed and so cheap as to be within the reach of most persons; easily procurable, useful, as well as free from exceptions to all, of whatever persuasion.* It is almost superfluous to estimate the cost of such sentences; £100 well applied might furnish many hundred thousands, all expenses included.

'24. The distribution, names, and forms of the animal creation, the distinctions of plants and inorganic objects, the first outlines of geography and astronomy, furnish also an opportunity for pictorial representations, some, perhaps, familiar to the natives, and others calculated to invite reflection to foreign countries and people and past events: something, in short, to serve more as a text to a larger subject than to illustrate the thing itself.

'25. The best pictorial tables I have yet met with are those which were drawn up by the celebrated Jussieu and Cuvier, who for many years directed this humble but most interesting department of the public economy. I have sixty of these elementary tables on natural history, which are very generally used in the schools and colleges of France. . . . The first cost, with letterpress, translated

into the various languages of India and spread over some 2,000 copies, would reduce the average cost of each sheet to about 8 to 10 annas.

'26. The above remarks apply to other tables and diagrams of astronomy, drawn up by Mädler in Germany, and those used in Prussia and France. In England, Ireland, and Scotland we have nothing equal to them for the matter they contain, their beauty, or the instruction they convey. The pictorial arrangement of the statistics, chronology, distribution of domestic animals, useful and nutritious plants, the races of man over the surface of the globe, of languages, of the first great political divisions of the earth, and separate countries, are all tabulated and illustrated in a manner to convey an incredible amount of information; by frequent inspection becoming familiar at sight, and being freely and conspicuously placed within the view of all, which mode of knowledge we, in our younger days, could only command through the medium of many and expensive books.

'27. I have synoptical tables of the German, French, and Italian languages, of the regular and irregular verbs, their conjugations, moods, and tenses, and various terminations, drawn out each in one large sheet, which schemes, even to a child, afford by easy comparison and reference a comparative and complete idea at sight of the structure and genius of this so necessary a part of the respective grammars. The same is applicable to the Maráthí, Gujárátí, and, in fact, all the Oriental languages, and would lead to a much better and readier acquaintance with them. Such tables printed on like large sheets on an average of 2,000 copies of each language would not cost above 4 to 5 annas each.

'28. The memory of the young, or those who are not quick, is not overburdened or embarrassed by this process, but is constantly refreshed by reference to the tables; method, as well as order, are likewise the sure results of such a mode of instruction. The knowledge of sounds or facts, the

correct ideas of things and Nature, are all quite secondary to the moral training, to the manifold benefits which accrue from system. The scheme of each nation's history, the dates of remarkable synchronous events, the periods at which celebrated individuals flourished and memorable circumstances transpired, are used in the Continental schools, from whence they have been partially adopted in our own country. These convey a correct and valuable epitome or outline, which is readily comprehended by young persons, and enables scholars whose memories are not retentive, and, indeed, persons of all ages, to read general and particular histories with far greater facility and profit than they could do with books only. Such tables might be drawn up of Indian history, with the help of Prinsep's tables, and the works of Orme, Horace Hayman Wilson, Mill, Wilks, Malcolm, Elphinstone, Briggs, and Bird.

'29. I have also most interesting tabular illustrated synopses of the structure, anatomy and economy of the human body; separate sheets of the structure of the eye, the ear, the hand, the foot; the comparative anatomy of domestic and wild animals, from France and Germany. The anatomy and structure of the horse and the horse's foot form very beautiful sheets, which would be of great value in our medical schools, the latter especially in all our cavalry regiments. . . .

'30. The whole scheme of chemistry, Orfila's table of poisons and their antidotes, others of meteorology, geology, botany, and a variety of distinct branches of philosophy, are also tabulated in sheets, embracing at one view the leading and most important facts, to a knowledge of which the most clever student could never hope to attain so readily or satisfactorily by any course of reading.

'31. Next to this is the entire branch of drawing, perspective, civil architecture and civil engineering, of which I have also similar tables by Thénard, which are used on the Continent for higher instruction. But it will suffice to

say that all these illustrated tables, or epitomes of science and general knowledge, would be comparatively inexpensive to large treatises, although in the first instance beautifully executed, and at some expense, simply by apportioning the first cost between the respective Boards of Education, and next by distributing it over a large number of impressions, to which a trifling amount in excess of the actual cost might be superadded. The publication of the English synopses should precede those in the vernacular languages.

'32. It remains only to speak of the means to obtain good translations of the text, or verbal explanatory matter, of these tables. For the technical terms it might, in many instances, be doubted whether any intelligible rendering could be proposed; but Captains Molesworth and Candy have fully shown in the preface to their dictionary of the Maráthí language that this language is far more copious and expressive than we should be led at first to believe. The late learned Mr. Ellis, of the Madras Civil Service, has shown the same of the Tamil; Messrs. Campbell and Bird the same of the Telugú. There is no reason, therefore, why a considerable portion of such explanatory matter should not admit of faithful translation in terms familiar to the natives.

'33. The same methods might be employed in India as in Europe; the offer of liberal and suitable remunerations for the best translations made by persons without distinction, native or European, to be delivered in a given time, and in duplicate, fairly and very plainly written out, so as to leave no doubt in the printer's mind. The first expense might also be divided in the case of languages belonging to any two, or all of the Presidencies, the Hindústání, Canarese, Maráthí, which two last are used in the territories subject to Madras and Bombay, the first nearly all over India. The same means might likewise be employed in regard to translations of good elementary works. The choice of such works should be well considered, and ample encouragement held

out without distinction to persons competent to such translation; the parties to tender, in the first instance, a sufficient specimen of their capability, without undertaking the entire work. From two entire translations the best might then be adopted, and the total proposed remuneration awarded, two-thirds to the best, one-third to the second-best translation.

'34. In regard to Æsop's Fables, translated by the lamented and estimable Venkoba Sudashiva Naik, there is great room for improvement. In undertaking to publish such a work for general diffusion, with good illustrations, it would be most desirable to reconsider the translation and have it better done. . . .

'36. Finally, I would speak of the large educational maps, such as are used by the Boards of Education in England, Scotland, France, and Prussia; all these might be done at the same average cost, on an impression of 1,000 copies of each, in the Hindustáni, Maráthi, Gujaráti, or Canarese characters and languages, viz., the World, globular projection, Europe, Asia, Africa, America, England, Scotland, Ireland, Palestine, Arabia, China; India and the British Islands, each Presidency of India, Ceylon.

'37. I am prepared to execute these maps on an improved and perfectly new projection of my own, and with the various materials I have collected in different parts of Europe.

'38. I have written to the Board thus fully, the distance and the length of time which elapses in communicating with India admonishing us all to make the most of the present moment. I thought it also of the greatest importance to put the Board in complete possession of the advantages I now hold out to them, from my personal exertions, long acquaintance with India and the Oriental languages, and other reasons which forcibly present themselves to their favourable consideration.

'T. B. JERVIS,
'Major of the corps of Engineers.

'ATHENÆUM CLUB, LONDON,
'*February* 3, 1847.'

CHAPTER X.

CORRESPONDENCE ON SCIENTIFIC, EDUCATIONAL, AND PROFESSIONAL SUBJECTS.

'All are but parts of one stupendous whole,
Whose body Nature is, and God the soul.
Slave to no sect, who takes no private road,
But looks through Nature up to Nature's God.'

POPE.

CAPTAIN JERVIS, greatly preoccupied about the ultimate publication of his Statistical Survey of the Konkan, after he had laid out about 13,000 or 14,000 rupees of his private means on it, over and above the official allowances, writes on this matter to Mr. Secretary Reid :

'BOMBAY,
'*December* 24, 1834.

'. . . It is impossible for anyone who has not been so employed in India to appreciate the fatigue, anxiety, and labour which the preparation of this work has cost me, and I am persuaded that no one can ever do that justice to its publication which I should myself, from the perfect knowledge I possess of the subject in all its details. I hope, therefore, as a crown to all that has been accomplished, the generosity of his lordship will add that of entrusting it wholly to me. . . . This course has been so repeatedly followed in all countries, but most especially under the very

liberal Governments of India, that it can only be a question whether my own particular work is deserving of such publicity and favour.'

'*To Mr. Chief Secretary Norris.*

'BELGAUM,
'*May* 21, 1835.

'In regard to my own undertakings, I had all my survey department to form personally; I may almost say that I had to teach them their letters, and the first rudiments of drawing and arithmetic. The country is undeniably one very difficult to survey, and was, at my first entering upon it, but recently conquered from the Peishwah, and very little known. I found it difficult to procure public instruments of any accuracy or utility, and now make known the fact that nine-tenths of the work was actually performed by private instruments, either my own or lent to me by my friends who took an interest in the progress of the work. . . .

'As the Government expressly signified their permission that I might print my Statistical Survey, maps, etc., at my own expense . . . my sole desire was to have ensured the execution of the work in the most beautiful and complete form, and to recommend it to the notice of the Hon. Court and the public; for it is evident, if the work be worth anything, the Government and its officers must derive the principal benefit from its publication. As I was given to understand all *my* labour would be fruitless, and that the papers would eventually be locked up with many others in [illegible]e archives here or in England, till destroyed by time, on [illegible]unt of the great expense and difficulty that would attend [illegible]ublication, I engaged to take all the risk on myself, if [illegible]vernment would subscribe to 100 copies, hoping to [illegible]ify myself against any loss by the subscription of a [illegible]stinguished persons in Europe, and thus secure the [illegible] of my labours to the Government and the public with [illegible]s charge than they could do. . . . The copies of the maps prepared by me for the Statistical Survey were rendered

totally useless, as drawing-paper soon loses its size (the ley of parchment and alum in which it is steeped) in this climate, and thus becomes actually like blotting-paper. After a vast deal of expense and trouble, I was under the necessity of setting all these aside, and beginning my work anew.'

In a memorandum dated June 6, 1835, he says:

'. . . I have added other matter which . . . may be thought a great inducement to the Hon. Court to accede to my request, insomuch as I engage to publish in one and the same work all the statistical and general information I have collected during a twenty-one years' residence in India, embracing a vast deal of information on the botany, science, history, resources, and geography of this Presidency, which exists now only in my private memorandum-books, and I engage to publish with them a large and valuable series of drawings illustrative of all these subjects, comprising, it may be, 600 to 800, which are executed in the first style of art.'

Besides his architectural drawings the flora was beautifully drawn from Nature by Mrs. Jervis with botanical precision, as also the landscape scenery.

'My brother, Major [afterwards Colonel] George Jervis, desirous of advancing the cause of education in India, over which he was the constituted official superintendent in Bombay, seized the opportunity of the Hon. Mountstuart Elphinstone's relinquishing the Government of Bombay, in November, 1827, to suggest to the principal native chiefs and merchants—who were forward to join the Europea community in testifying their respect for his public private virtues—that the most suitable and lasting me of this good feeling would be the formation of a f the entertainment of talented professors and teach the foundation of scholarships. Accordingly, he rai astonishingly large sum of 175,000 rupees (about £16 in the space of one month, which ran at interest in Treasury for six or seven years, when two Professors, Mr A. B. Orlebar, from Cambridge, and Mr. Harkness, fro

the University of Edinburgh, and two excellent teachers, Messrs. Bell and Henderson, were selected by Mr. Elphinstone, and sent out to Bombay. For the teachers there was abundant employ, and they have been found eminently useful; but for the Professor of General English Literature, Mr. Harkness, and the Professor of Mathematics, Astronomy and Science generally, there were none sufficiently advanced to avail themselves of these improved facilities of instruction.

'In this dilemma I found my friend, Mr. Orlebar, greatly distressed, in that he could not conscientiously make any return to the public for his salary, with a house provided him by Government gratuitously, close to the public observatory, the office of astronomer being then vacant. I considered, on his applying to me for private counsel, that he might, with very great propriety and advantage, direct his acquirements to the prosecution of astronomical and other scientific researches, with the concurrence of Government, should the building, as well as the tide-well close by, then in an unfinished state, be completed, and suitable instruments furnished, which I engaged in my public capacity as Superintending and Civil Engineer, and by private influence with the several members of Government, to effect. In furtherance of these objects, the following correspondence originated:

'"*To the Hon. Court of Directors for the affairs of the Hon. East India Company.*

'"BOMBAY CASTLE,
'"GENERAL DEPARTMENT,
'"*March* 1, 1836.

'"HON. SIRS,

'"We have the honour of transmitting to your Hon. Court the accompanying copy of a letter addressed to us by Professor Orlebar, and, as the experiments therein proposed to be carried on by the Professor will be highly interesting in their results to the scientific world in general, to solicit your Hon. Court to cause the instruments specified to be

supplied, and that Captain Jervis, of the Engineer Corps, of this establishment, who is proceeding to England, may be entrusted with the selection of them. Professor Orlebar suggests, on public grounds, the delegation of this duty to Captain Jervis, and as the Professor is deeply interested in, and responsible for, the due performance of the experiments in question, we have ventured to request and recommend a compliance with his wish.

'"We have the honour, etc.,

'"R. GRANT,

'"JOHN KEAN,

'"JAMES SUTHERLAND,

'"EDWARD IRONSIDE."'

Professor Orlebar's letter to W. H. Wathen, Esq., Chief Secretary to Government, dated Bombay, February 24, 1836, expresses 'the extreme desirability, for the general purposes of science, that experiments should be carried on, whenever there are opportunities of registering such observations. . . . The most interesting and useful of these might be prosecuted at this Presidency, and at a small expense. . . . . The objects to which I have adverted are: 1. The determination of the length of the seconds pendulum. 2. The magnetic data. 3. The atmospheric tides; and to these may be added the refraction of the atmosphere. . . . I beg to submit that the above experiments will be important, when compared with those which are now conducting in various parts of the world, as affording a fixed centre of comparison for those which are now being made both by sea and land on the continent under the decision of the Government, and also as subservient to the proposal now made by Captain Jervis for introducing a fixed standard of weights and measures into the country.

'Should such application appear deserving of the favourable consideration of the Right Hon. the Governor in Council, Captain Jervis, who proposes shortly to take his

furlough, engages to superintend the construction of the above-mentioned instruments, and to submit them to scientific gentlemen at home, previous to their transmission, that nothing may be wanting to secure the success of the experiments, and render them valuable. I hope, therefore, that Captain Jervis may be allowed to render this assistance.'

Minute No. 184, *by the Right. Hon. the Governor, subscribed to by the Board.*

'The experiments proposed to be carried on oy Professor Orlebar will be highly interesting in their results to the scientific world in general. The Hon. Court may therefore be applied to for the instruments specified, and if Captain Jervis should proceed to England it might be recommended that he have the selection of them.

'R. GRANT.'

Captain Jervis addressed a letter to the Hon. Sir James Rivett Carnac, Bart., Chairman; Major-General Sir James Law Lushington, Deputy Chairman, and the Directors of the East India Company, when in London, on January 23, 1837, requesting the permission 'to procure suitable instruments for the registry of certain important philosophical observations at the Observatory, and for experiments connected with the registry of the tides, all of which were considered especial desiderata by the Royal Society, . . . and to state that they should be of the same description as those employed at the present time in like experiments in other parts of the world, and should likewise be well compared with the same standards previous to transmission.'

'*To the Hon. Court of Directors of the East India Company.*

LONDON,

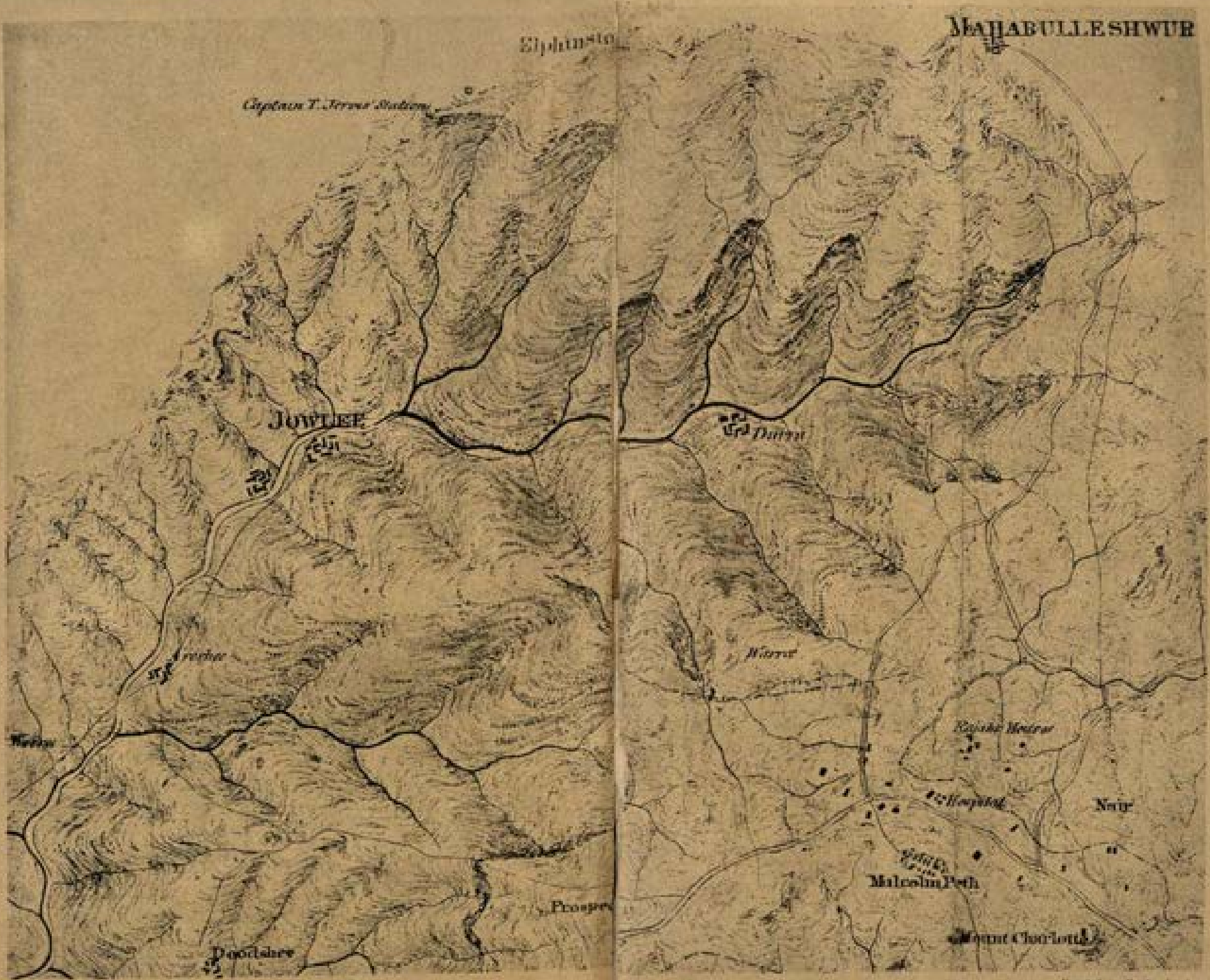
January 2, 1837.

'. . . In 1832 I submitted to Lord Clare and the Right Hon. the Governor-General of India an account of the geological structure of that part of Western India lying between 15° and 19° N. lat., pointing out that it presented

a vast resource of wealth, which might be turned to the public advantage. This tract abounds in slate, lithographic stone, marble, millstone-grit, and in places alum, copper, and iron. But of all these products the most abundant, valuable, and easily-worked is the slate, the quarrying of which would give employment to 20,000 or 30,000 indigent persons, and be a sufficient method of turning a tract presenting many vast, sterile, unproductive wastes into a scene of industry—deviating the predatory hordes of Pendhári and all those other miscreants who assemble and reside on the banks of the Krishná, and have lately assumed so formidable a character as Thugs, to an industrious and orderly course of life. The large remissions of Government revenue rendered indispensable by the frequent fires of large towns, which are roofed in with grass, reeds, and other temporary materials, would be obviated by the introduction of a better material. Cleanliness, economy, and durability would lead to a general improvement in the comfort, salubrity, and value of the dwellings in the adjoining territories, and education would find a useful auxiliary in the writing-slate, pencils, and lithographic-stones.

'My observations on the employment of prisoners in the gaols under the Engineer officers, in the construction of public roads, bridges, and other extensive undertakings, first announced to Government by the Judicial Department, Southern Marátha country, were warmly taken up by the Circuit Judges, and lately recommended at the Legislative Council Board.'

We now come to the interesting correspondence which took place at the time of Captain Jervis's provisional appointment to succeed to the post of Surveyor-General of India, which it was then believed Major Everest was about to relinquish. The most gratifying opinion was formed of this choice by the Chairman of the Hon. East India Company, and by the Fellows of the Royal Society.



PART OF NILGIRI HILLS, SPECI[MEN] OF AN TOPOGRAPHICAL SURVEY
by Captain Thomas Best Jervis, scale 2 miles to an inch

'EAST INDIA HOUSE,

'MY DEAR JERVIS, '*August* 23, 1837.

'I am truly happy in being able to inform you that your appointment to succeed Major Everest as Surveyor-General of India has been determined on by the Court. I trust that my communication of the fact will be the earliest you will receive, and you will feel assured that no one will derive greater pleasure than myself from the opportunity afforded of conveying the information.

'Yours sincerely,

'J. R. CARNAC.'

'*To Captain Thomas Jervis.*

'EAST INDIA HOUSE,

'SIR, '*September* 9, 1837.

'I am commanded to acquaint you that the Court of Directors of the East India Company have appointed you to succeed to the office of Surveyor-General of India upon the death or resignation of Major Everest, and that the Government of India will be duly apprised of your provisional appointment.

'I am also to intimate to you that the Court fully approve of your proposal to devote the remainder of your furlough to an attendance upon the Trigonometrical Survey about to be carried on in Scotland, and to avail yourself of the other opportunities which you will have of gaining a perfect knowledge of every late improvement in astronomical and other scientific instruments by visiting institutions established for the promotion of science.

'I am, etc.,

'J. D. DICKINSON,

'Deputy Secretary.'

'*To Captain Jervis.*

'EAST INDIA HOUSE,

'SIR, '*November* 10, 1837.

'I have laid before the Court of Directors of the East India Company your letters . . . in which you ad-

vance claims to additional remuneration for your labours in conducting the Geographical and Statistical Surveys in the Konkan, copies of which, and of various documents connected therewith, you have also laid before the Court.

'I am commanded to inform you that the Court have taken this case into their full consideration, and that as a testimony of the high sense which they entertain of the value of your labours they have resolved to award you a donation of 10,000 rupees, which sum the Bombay Government has been instructed to pay to your agent at the Presidency.

'I am, etc.,

'JAMES C. MELVILLE.'

To Sir John Barrow, Bart., Secretary to the Admiralty, Captain Jervis writes:

'26, PORCHESTER TERRACE,
'BAYSWATER,
'*January* 25, 1838.

'SIR,

'The Court of Directors having referred to me the copy of a despatch from the Bombay Government respecting certain instruments for the prosecution of magnetic and other scientific inquiries in India, and being desirous of availing myself of the advice and opinion of the committee of which the Lords Commissioners of the Admiralty were pleased to appoint me a member, both as to the general experiments that might be instituted in furtherance of the interests of navigation and science, and the particular instruments that should be employed to connect such experiments with those carrying on, or about to be carried on, in Great Britain and her colonies, I trust the Lords Commissioners of the Admiralty will deem the subject of my application of sufficient importance to refer to the consideration of the committee.—I have, etc.'

The Admiralty decided two days later to refer the subject to the Committee on the Variation of the Magnetic Needle.

'*To Professor Lloyd, Trinity College, Dublin.*

'26, PORCHESTER TERRACE,
'*February*, 1838.

'DEAR SIR,

'Everybody who has devoted himself to scientific pursuits must acknowledge with regret that his time and trouble have frequently been misapplied for want of a mutual understanding with other parties as to the desiderata and course of experiments which each would pursue in view to the same objects. I venture to trouble you with the present communication from a persuasion that you feel such interest in the prosecution of magnetic inquiries, and in everything which our friend Major Sabine is engaged in, as will induce you to give the subject of my letter an attentive and early consideration.

'When in India, where I have passed twenty-three years of my life in the corps of Engineers, principally in scientific pursuits, I submitted to the authorities a proposition for carrying on such experiments, and procuring the necessary apparatus from England. All that we yet know of magnetism is probably sufficient only to confirm us in the belief that further research is as necessary as it is desirable, for the interests of navigation, of geographical discovery, and of science generally.

'The despatch of the Government of Bombay, and correspondence recommending the purchase of the necessary instruments, having been referred to me by the Hon. Court of Directors, E.I.C., I am naturally anxious to avail myself in reply of the information and superior judgment of those who are so peculiarly qualified to point out what is desirable, and to confer with them as to the methods to be pursued for contemporaneous and corresponding observations, that, as far as such precautionary measures will admit of it, we may reasonably anticipate their issuing in success, and as there is a probability that other investigations of a similar kind will be instituted at the Cape of Good Hope and other

parts of the world by our own countrymen, that we may so concert together that the results shall lead to some decided and practical conclusions.

'The Court of Directors having recently nominated me to succeed Major Everest in the Surveyor-Generalship of India, where there is, of course, the most splendid and ample field for every sort of philosophical research, I feel doubly interested to know more exactly what particular instruments you would recommend, the nature, time, and course of observations or experiments which you think would best subserve this particular object, and as the very same subject is now before a committee at the Admiralty, consisting of Captains Beaufort, James Clarke Ross, Johnson, Major Sabine, Professor Christie, and myself, it would be enhancing the obligation if you would find leisure to give me your opinion at length, and as early as possible, in order that I may have it to produce to the Court of Directors and the Government of India, to prevail with them to institute and carry out these inquiries in the most efficient and creditable manner. It may be useful also to the committee.

'My idea is that it would be a very great service to science if Major Sabine were associated with me by the Court of Directors in these experiments, and a friendly word from those who are so sensible to his excellent qualities and talents as you are might carry with it a deal of weight in seconding my own endeavours. Major Sabine is desirous of it.'

Early in the year 1838 the Council of the Geographical Society were occupied with the discussion of the subject of the North-West Passage laid before them by Captain James Clarke Ross, R.N., to the meeting of which the latter invited Captain Jervis, as he was subsequently requested to attend the meetings of the Compass Committee at the Admiralty.

'11, ST. GEORGE'S TERRACE,
'HYDE PARK,
'MY DEAR SIR, '*March* 20, 1838.

'. . . I had written a rough outline of what I thought of sending in answer to your inquiries respecting magnetism, which I wished you to see, and make any alteration that could be beneficial before I wrote it out for you, and therefore I now send it for you to look over and return to me through Beaufort, with any remark you may wish to make on the subject. I am just on the point of starting for Bushey, where I propose in the course of the week to make simultaneous observations with the observers on the Continent, to which I have alluded in my letter to you on this subject. . . . I congratulate you on your *unanimous* election as F.R.S.

'Ever yours sincerely,
'JAS. C. ROSS.'

Captain Jervis, after studying in the minutest manner the organization of the Irish Survey under Colonel Colby, R.E., was brought to the conviction that it was the best which could be introduced into India for the survey to be made on the basis of the beautiful triangulation then being carried on by Major Everest, and communicated his views to the Court of Directors in a report, of which some extracts may here be given.

'*To James Cosmo Melville, Esq., Secretary to the Hon. the Court of Directors of the East India Company.*

'LONDON,
'SIR, '*June* 12, 1838.

'As I have already furnished a very detailed account of the objects and most remarkable principles of the Irish and British surveys under Colonel Colby's superintendence, I trust the hon. the Chairman, Deputy Chairman, and Directors have sufficient information of the admirable economy and simplicity which characterize the entire process, to enable

them to appreciate the advantages which may be anticipated from its application to the Survey of India.' He urges celerity in the publication of the Revenue and Geographical Surveys, and points out the drawback of 'the separation of surveys at each Presidency under distinct authorities for revenue, geographical, and maritime purposes; the employment of officers on details which would be executed far better, quicker, and at considerably less expense by very inferior agents under their direction; lastly, the compilation of such surveys, made and laid down according to each individual's capacity and taste by some third party in this country, who has neither the means of ascertaining whether any errors exist, by an immediate reference to those who have executed the surveys, or by examination of the ground itself, the principal documents being transmitted home to someone who, never having been in India, and perfectly unacquainted with the localities and character of the country, cannot possibly compile so faithful a representation of it as the officer who directs the operations. . . .

'It may suffice to say that economy and despatch can only be ensured by placing all surveys under the direction of one officer, by the exclusion of all officers who are not thoroughly qualified to act under him by their professional attainments; and in every part of the details by recourse to the very simplest and cheapest machinery—in other words, by resorting as much as possible to mechanical agencies rather than intellectual helps, adapting them to this great object by the subdivision of labour; the whole being scrupulously and vigilantly superintended by someone in whose integrity and qualifications the Hon. Court are prepared to place unqualified reliance; lastly, in confiding to such officer, in conformity to the invariable practice of the British, Irish, Saxon, French, Austrian, and, in short, every other national survey throughout Europe, the final compilation and engraving of the work so performed, without which Colonel Colby asserts, unhesitatingly, that no

survey can be considered complete, nor, indeed, have the least pretension to authenticity. . . .

'In whatever light we view the remarkable system which originated with the present Superintendent, whether in relation to its adaptation to great manufacturing establishments, to public works and institutions, or as restricted in the present case under consideration to the conduct of an extensive survey, the grand and prominent characteristics are extreme simplicity, promptitude, and exactness, joined to the most rigid economy; that it anticipates and overrules all the obstacles which human ingenuity may oppose to its progress, absolutely pressing conflicting interests and motives into the service of the public, while it makes the immediate object of every person engaged to be honest and diligent, since it does not exact, or even entrust, the execution of any survey in all its details to the power, caprice, or capability of any one individual. At every step each man is perpetually called to order by those who follow upon his heels, and each pursues with undivided attention what he has been specially trained to, almost mechanically—as may be imagined, moreover, with facility and rapidity proportionate to such practice.

'The very moderate share allotted, consequent on any individual's labour depending on the quality and quantity of the work delivered to him in a less perfect state by another, and this last, again, on the outturn of the party who precedes him, each, in regular succession, operates as a check on one other, each one's particular interest being brought in direct collision with the negligence, incapacity, dishonesty, or collusion which must invariably subsist in every large establishment, however well it may be organized—however vigilantly superintended.

'Perhaps there never was so efficient an instrument in the hands of any Government, none, I am sure, so appositely suited, as this is, to the singular institutions of caste, and the encouragement thus held out of turning the greatest moral impediment to the account of moral improvement. It is this feature which most forcibly attracted my attention,

and I cannot but view the experiment now about to be tried as one calculated, in a variety of ways, to work beneficially in places and social institutions where no other influence could find access.

'In affirming the truth of these observations, it now remains with the Hon. Court to sanction the organization of such an establishment as may serve, *once for all*, as a permanent and efficient basis upon which subordinate native agency to any amount may be trained without expense or difficulty, preparatory to such an exact detail survey, whether for topographical or revenue purposes, as shall correspond to the valuable triangulation of Colonel Lambton and Major Everest.

'It is desirable, in the first place, that the Engineer officers, together with the whole of the sappers and miners (forty in number), at present under Colonel Pasley's instruction at Chatham, should be made over without delay to me or Colonel Colby, in order that such of them as may have a greater aptitude that way, or evince a greater proficiency, may be at his disposal for the Trigonometrical Survey of Scotland, and the remainder occupied on such duties as he may consider most advisable on the Irish Survey.

'. . . Twelve or eighteen months may be requisite to make all the parties thoroughly conversant with the respective details, and as it may be some time before Major Everest completes the meridional arc, or relinquishes his post, I shall have ample time to mature the plan, and watch its progress and working, as well as to make myself thoroughly acquainted with the respective merits and qualifications of each individual destined to impart this system to others.

'The establishment once formed and instructed, as here recommended, by Colonel Colby and myself, there will be no further necessity of training others in this country, nor any probability of its failing to effect such an entire reform in the various surveys of India as shall ensure their speedy completion. . . .

'The arguments I have now made use of were considered

by the late military secretary quite unanswerable, and he sincerely admired and estimated the originality of mind which first laid down these principles.'

From Captain William A. Tate, late Bombay Engineers.

'EAST HARPTREE,
'SOMERSETSHIRE,
'*September* 12, 1838.

'MY DEAR JERVIS,

'I received your letter only two days ago, and take the earliest opportunity of replying most gladly to it, and giving you my sentiments on the subjects contained. Though several years have elapsed since I was engaged in that very interesting branch of our profession which must occupy much of your attention, yet, believe me, I do not feel the less concern for the promotion of science in India, and especially of that branch in which I had so much experience and labour for many years of my life, and therefore I shall be much gratified in affording you all the information in my power on the subject referred to in your letter. I heartily agree, from my own personal observation and experience, to what you have represented to the Court of Directors, viz., that the natives of India, especially the Hindús, if properly instructed and disciplined by engineer officers, might be brought to such efficiency and skill in the various branches of surveying, even from the capacity of a chain measurer to that of an accurate observer with the theodolite, as well as of a neat draughtsman, as very considerably to abridge the personal labour and fatigue of European officers, especially in such a climate as that of India, which I can truly affirm, to my own cost, is such as to render great exertion in the out-of-door duties of the surveyor most prejudicial to the European constitution. It was this that impaired mine, and, rendering me quite unfit to resume my professional duties in India, reduced me to the painful necessity of retiring from the service on half-pay, and thus relinquishing all prospects of obtaining a competency in that service for my family.

'The three large plans of Bombay and Salsette, which I presented to the Court of Directors some years ago, were wholly executed with my own hands; but were compiled from data, that is, outline copies in small sheets, of the finished plans, which my native surveyors and draughtsmen drew in Bombay under my superintendence. These surveyors and draughtsmen I myself instructed, and to such an extent of proficiency as to enable me to confide the *several portions of the work* to them, and that without any aid from Europeans. . . . The plans I executed were copies, drawn on a smaller scale. This brief summary of my labours in the surveys of Bombay and Salsette will probably suffice to strengthen your argument on the great benefit to be derived from the employment of the natives of India in the various branches of surveying. Had such a system been adopted some years previously, my own health and constitution might, humanly speaking, have been preserved to this day for the service of the Company, and the two surveys of Bombay and Salsette might have been *completed in half the time*, and perhaps at *one-fourth of the expense*, and certainly, therefore, much more to my own credit and that of the corps to which I had the honour of belonging. . . . And I will be bound to affirm that if you, as Surveyor-General, should have an adequate number of efficient Engineer officers under your orders, to superintend the different portions of the Survey of India, and under their control a sufficient number of natives, well instructed and disciplined in the different minutiæ of the work—each native having his own distinct duty—the result would be expedition, accuracy, and economy in the end. The labour of out-of-doors work is certainly much more calculated for natives than for Europeans, and as for the mechanical part of the plan-drawing, which of course requires more patience and assiduity than mental skill, I will be bound to say that my native draughtsmen would compete with most Europeans in India. . . . It appears to me that Colonel Colby's system in the Ordnance Survey is one

which is quite as much, if not *more*, suited to the natives of India, and my knowledge of them leads me to say: "Instruct them well, *be patient* with them, and not go beyond their mental capacities; show them *kindness*, as well as *firmness* and *consistency*, and you may, I am sure, place as much confidence in them as in Europeans, and perhaps much more." They require but comparatively low salaries, for their wants are so few. I have found them obedient, submissive, and faithful servants; the letters I have received from them prove their affection for me, and that they are not unmindful of my labours in their instruction.'

From Sir John Herschel, Astronomer Royal, to Major Jervis, regarding Magnetic Observations in India.

'SLOUGH,
'*April* 28, 1839.

'MY DEAR SIR,

'We must give things in this world time to work. It is true that time presses, yet there are good old adages which may be cited. The H.E.I.C. [Honourable East India Company] have now for the first time a definite proposal before them, coming to them with all the weight of the Government of the country on the one hand, and the R.S. [Royal Society], as the representative of its intellect on ye other. I feel assured that they neither can nor will hesitate to do the right thing, but take decided steps to ascertain how to do it in the right manner. Lord N.'s letter was all that, in his situation, could have been expected from him, or, indeed, that would have been desirable. It is now for the Court of Directors to move, and I presume they will do so after this fashion, *i.e.*, communicate officially with the committee of the R.S., stating that they have resolved to act in conformity with their recommendation, and desiring instructions, and to be placed in communication with those on whom the arrangement of the corresponding observations devolves. And thus all will be in the right train. I have no apprehen-

sion at all of their summarily rejecting the whole affair, still less, if they take it up, of their doing so in a wrong manner.'

From Major Jervis to Lord Ellenborough.

'22, NOTTING HILL SQUARE,
'*May* 9, 1839.

'MY LORD,

'I have to acknowledge the honour of your lordship's note. The great object I had in view in waiting personally on your lordship was to lay before you some particulars respecting that at present most momentous subject—the very imperfect state of our knowledge of the geography and resources of India. Presiding as your lordship has done for so many years at the Board, better disposed to its real interests, and acquainted as your lordship undoubtedly is with all the bearings of such a question, my attention was naturally directed to the nobleman who could best appreciate the necessity of some step being taken to supply that deficiency which it will properly belong to me in my official capacity of Surveyor-General of India to suggest.

'. . . Since the first commencement in 1759 about two millions sterling has been expended on the surveys, including the revenue surveys, and not one single map of the latter has ever yet been published, and all that we now have of the geography is about twenty-nine sheets of the South of India.* Of the frontiers on the side of Central Asia the Russians have far better information than we have. To remedy this deplorable deficiency, I recommended, in conjunction with the present Surveyor-General, Colonel Everest, Captain Beaufort, and Colonel Colby, the model of the Austrian and Irish surveys, and with the aid of

* It must be understood that at that period, as results from contemporaneous notes left by Lieutenant-Colonel Jervis, the East India Company would not permit the publication in England or in India of the geographical MS. materials which existed, and which might have been brought together; whence their utility was rendered null and void.

Colonel Colby to train a small establishment of one hundred men, thirty of whom to be engravers and lithographers, to do what in all other countries is the invariable practice, to compile, print, and publish all geographical information under my own eye—under the sanction and seal of the Government and the Surveyor-General.'

Writing to the Secretary of the Geographical Society of Bombay, Captain [afterwards Admiral] Washington says:

'We all regret extremely Jervis's departure. He has been on our Council from the day of his arrival in Europe, and both there and in every other place has helped forward the cause of geography as much or more than any other individual member of our society, and we rejoice at finding him about to fill so important a post as Surveyor-General, when he will have it in his power to forward geography still more. I earnestly hope that you and all his friends, and all those who wish well to scientific research, will aid him with your advice and support as he may need it.'

From Colonel George Everest, Surveyor-General of India, to Major Jervis.

'KALIANA,
'HIMALÁYA MOUNTAINS,
'*December* 30, 1839.

'MY DEAR SIR,

'I was duly favoured with your letter of the 13th inst. and its enclosures. . . . I fear it will disappoint you, but nothing whatever will move me from my post until the whole arc to the north of Beder is completed, so as to be invulnerable to all imputations of inaccuracy. The triangulation has all been done in a style of surpassing excellence with first-rate instruments, and, as my *amour propre* leads me to hope, by observers second to none. . . . My invaluable astronomical assistant, Lieutenant Waugh, is now at Kalianpore in Lat. 24° 7′ at one end of this section with one instrument, whilst I am at Kaliana in Lat. 29° 31′ with the other. We are within 1,000 feet

of the same meridian, which is a rejectaneous and insensible quantity, making only this difference—that the stars selected for the purpose pass over his wire about three-quarters of a second of time earlier than over mine. Our stars are thirty-six in number, and we observe them for forty-eight nights in succession, the complement of observations being to each of us 1,728; and as we always make it a rule to do more rather than less, our complement there will probably be about 2,000 observations at each end of the section, or in all 4,000 to determine this arc of amplitude.

'. . . From this you will be able to judge of my plans, and form your own accordingly. I am well mindful of what Solomon says, "Hope deferred maketh the heart sick," and can easily sympathize with the annoyance it must cause you to find me so pertinaciously continuing to occupy the station which you were led to suppose was vacant; but my mind is made up to complete before I go all the work of the great arc in which I am anyhow implicated. . . .

'. . . Obtain the sanction of Sir J. Carnac to come over here on business. Come and stay with me as my guest; I shall be very happy to give you a hospitable reception, most delighted to introduce you to all the arcana of my department, to show you the implements, both personal and material, with which you will have to deal. As to climate, if you start from Bombay immediately after this reaches you, and come up to my headquarters, you will be in our mountains before the hot winds set in, and I do assure you there is not a nicer climate anywhere.

'. . . It is in truth high time that you and I were better acquainted, and knew each other more thoroughly; I feel assured that the more that takes place the better friends we shall be. Besides, I am very anxious to have some conversation with you regarding my scientific acquaintances in England, and to hear all about the Astronomical Society and the Royal, and Sir J. South, and Professor Airy, and so many people who are interesting to you and me.'

From Captain Sir Alexander Burnes.

'CABUL,

'MY DEAR JERVIS, '*December* 2, 1840.

'I have just received a letter of yours . . . regarding your intention of editing a work on the geography and statistics of Asia . . . and beg to assure you for auld lang syne how glad I shall be to be of any service to you in the matter. At present, and for the last two years, I regret to say I have done little, as compared with former times, for the cause of geography; but I am as zealous as ever, and if I had been present myself this country would, I hope, have been permeated far and wide. At present we know nothing of most of it some forty miles from Cabul; but I must not throw blame on others because they do not see with my eyes, and when they have really had so much to think of.

'I cordially congratulate you on your succession to the honourable appointment of Surveyor-General, and I wish you all success. If you can but carry into effect part even of your great plans as sketched to the societies at home, you will have a high niche in the temple of fame. I often look back on your kindness in first instructing me in the use of the sextant, and turning me out a thoroughbred surveyor. I have not done much scientifically, but I hope I have shown that I did not return to vulgar fractions and the rudiments of geometry in vain. I know not how to return to you in kind my remembrance of such favours, which I do assure you is yet green.'

The two following extracts are from letters Major Jervis wrote to L. R. Reid, Esq., Chief Secretary to Government, Bombay Presidency:

'BOMBAY,

'SIR, '*June* 24, 1841.

'. . . Maps of an ordinary kind, of which several copies are required, might be correctly drawn and litho-

graphed out of hand at a small cost and with equal despatch, and where several draughtsmen are engaged the employments of each, according to their respective capacities and turn, in one or other kind of work, in copying, laying down new materials, or printing, greatly reduces the expense; and though it might be supposed that the mere copying of maps is easy to any capacity, it is not to be credited without examination what errors result from the most beautiful copyists, unless constantly looked after. I believe, indeed, the Hon. the Governor in Council will find it very much for the public interest to give every facility to the multiplication of the smaller district maps and other surveys on a large scale, which would at once help on the compilation I have in hand, and enable even the native officers of Government to possess themselves of documents for a more correct knowledge of their respective charges. But this can only be done by the means which I respectfully suggested for the consideration of Government—the employment of a number of persons of ordinary acquirements and some few well instructed. Hyum Essají, the Chief Engineer's office, and Vishnú Agashí, who were both taught and practically exercised for about ten or twelve years under my own eye, would set an example of diligence and accuracy to a large class of persons, who would thus be brought forward for the future benefit of the Government.'

'BOMBAY,
'*June* 25, 1841.

'. . . The cost of the joint survey of Salsette and Bombay, as I ascertained from an inspection of the records at the India House, amounted to about 235,000 rupees. In a few years this document, prepared with the most singular accuracy and neatness, will be completely worn out. If it were lithographed, and Government supplied with some twenty or thirty copies at the cost of about 50 rupees each, the original might be preserved many years. It might cost 1,800 to 2,000 rupees to lithograph it beautifully and

correctly, but, as many mercantile offices and private individuals might be glad to get copies, the expense would become proportionally less to Government.

'The same remark applies to Káthiawár, for copies of which I have received four applications from persons whose official and general duties prove that the present slow method of supplying even the public departments is quite inadequate. . . .

'In confirmation of what I advanced, I beg to hand up two specimens done at a lithographic press,* by means of which, conjointly with Mr. Macleod, I had proposed to render this peculiar branch of the greatest value to Government, Mr. Rivett, the Superintendent of the Government Press, having already assisted me, and expressed himself most ready to do anything which might forward an object of such general advantage.'†

Extract of letter from Colonel George Everest to Major Jervis.

'DEHRA DUN,
'*August* 25, 1841.

'MY DEAR SIR,

'. . . I had made up my mind to retire from the service at the end of this year, and to let my career close with the measurement of the base-line in the valley of the Kanjera, under the full persuasion that the Court of Directors would allow me my pension as full Colonel. Last year I drew up a memorial to them. . . . I went on furlough sick . . . having been employed on duty in England eighteen months of that period, so that by the end of 1841 I should have served in India thirty and a half years. I prayed them therefore, in consideration of my arduous career, to allow the said eighteen months to reckon as service to the east of the Cape, whereby I should be able to retire on the pension of a full Colonel. This memorial

* Plan of the Kurrachi Cantonment, and map of Aden.—T. B. J.

† Such repugnance to publicity of necessary maps in India, only half a century ago, may well-nigh appear to be incredible.—ED.

has not been granted . . . and therefore I must wait till my claim is realized by running the whole period.'

To Lieutenant-Colonel Melville, Military Secretary to Government, Major Jervis writes:

'BOMBAY,
'*November* 25, 1841.

'SIR,

'Having received information that Lieutenant-Colonel Everest has no present intention of relinquishing the Surveyor-Generalship, and that he has further deferred the period of his retirement for eighteen months or two years longer, I respectfully solicit the permission of the Hon. the Governor in Council to retire from the service from December 30 next, which date I have specially named to afford me sufficient time to deliver over the documents in my charge to any officer the Hon. the Governor in Council may please to appoint. I beg to state moreover that my health is greatly impaired, and has never been fully re-established since I returned to this country in 1839, at which time I had but recently recovered from a severe attack of influenza.'

From L. R. Reid, Esq., Secretary to the Government of Bombay

'BOMBAY,
'*June* 18, 1843.

'MY DEAR JERVIS,

'I have to thank you for the beautiful maps you have sent me of Bombay and Bokhara; they are excellent specimens of lithography. . . . You mention being about to commence the map of the South Konkan. We have had the Tanna Collectorate already lithographed—*i.e.*, from Damaun to the Bankút River, including all Ryghur and Mahableshwár, and there is now in preparation in the Chief Engineer's office the Rutnagiri Collectorate, *i.e.*, from the Bankút River to the southern extremity of the Goa territory. These are on the scale of four miles to an inch, but stand no comparison with your specimens.'

From the Rev. Thomas Smith, Calcutta, to Major Jervis.

'CALCUTTA,
'*July* 12, 1844.

'MY DEAR SIR,

'. . . I have heard sometimes with much pleasure of your doings, especially of late, that you have taken up in a more public way the advocacy of India's claims on British compassion. I trust you will experience that it is good for your own soul thus to strive to benefit others, as I doubt not you will if you go on in faith. . . . Surely there is a time not far off when men in Europe *must* seek for knowledge regarding Asia. There cannot, I should think, be a doubt that when that time comes the value of such a series of works as you propose will be acknowledged. We are in great want of a schoolroom map of India; not too expensive to be bought by the teachers of the ordinary schools, but not so common as to be useless, as almost all the maps are that profess to be made for schools. . . .

'Our [Free Church] Institution is going on remarkably well with nearly 1,200 scholars. . . . I hope you will find leisure hour still to inform me how your affairs go on. I am assured that, however little I can help you, no one can be more interested in the success of your undertakings.'

From a letter Major Jervis wrote to the Secretary of the Royal Asiatic Society, sufficient evidence will be gathered to satisfy everybody that in establishing a lithographic press in his own house for the furtherance of the highest ends of education in India his great object was absolutely free from a trace of desire to gain money.

'FLORA VILLA, AVENUE ROAD,
'REGENT'S PARK,
'*February* 6, 1845.

'SIR,

'I request the favour of your presenting to the Royal Asiatic Society the accompanying specimens of my private

lithographic press, which are designed chiefly to show the progress making towards the great object I have had in view, since my return to this country: the means of promoting the important purposes of public education in India, of assisting the learned and scientific bodies and missionaries in all departments of an illustrative nature—geography more particularly—to which last I have ventured to promise large and valuable accessions of information from many sources to which the general English reader is debarred access.

'Through the noble encouragement and countenance of the Director of the Royal Asiatic Society, my first volume of Memoirs has been published, under many discouragements, and slowly but satisfactorily the establishment which I have raised up is becoming extensively useful.

'My lithographed maps of Bokhara and Bombay a[re] before the Royal Asiatic Society, and have received th[e] highest praise from competent judges in this country, in Germany, France, and India. When my lithographed plan of the city of Peking was brought to the notice of the pres[ent] Envoy in China, Mr. Davis, the best Chinese scholar o[f] Europe, he was pleased to say of it that it was the fir[st] specimen of Chinese writing he had seen out of the count[ry] and would compare with the best native Chinese.

'. . . A great variety of documents for India and th[e] East generally will give me further opportunities of showing the importance of such an establishment to the cause of truth, of science, and good government, in all which the Royal Asiatic Society, and the Hon. East India Company, the Board of Commissioners for the Affairs of India, as also the Governments of India, are most deeply concerned. . . . Having no mercenary view, I can engage for the greatest practicable despatch.'

Mr. George Bellas Greenough, President of the Geological Society, possessing as he did one of the richest collections of maps in the kingdom, writes to Major Jervis:

'REGENT'S PARK,
'*December* 6, 1844.

'MY DEAR SIR,

'I am greatly obliged to you for your map of the Duskroí Pargunna; it is admirable, both in design and execution. Would that the whole of India were laid down on your model! Accept my best thanks, and believe me, yours very sincerely.'

No one could surpass in competency such a judge as the great engineer, George Rennie, who pronounced the following opinion regarding numerous specimens sent to him:

'WHITEHALL PLACE,
'*January* 21, 1845.

'MY DEAR SIR,

'I beg to return you my sincere thanks for the beautiful lithographs you have so kindly sent to me. I quite agree with you that I could not have conceived the perfection to which lithographic art had arrived until I saw the specimens, for although we have had much experience in our dealings with the trade for railway and toher maps, the style of engraving has, in general, been very inferior, and has not hitherto given one a high idea of it; yours, however, are exceptions. . . . With many thanks.'

To Dr. Edward Pretorius, Private Secretary to H.R.H. Prince Albert.

'FLORA VILLA, AVENUE ROAD,
'REGENT'S PARK,
'*March* 6, 1845.

'MY DEAR SIR,

'I am greatly indebted to you for your very prompt and courteous attention in laying my plan of Peking before H.R.H. Prince Albert. I was at Her Majesty the Queen's Levee yesterday, presented by my friend, the Right Hon. Sir Henry Pottinger, to lay before Her Most Gracious Majesty my plan of Peking . . . as a humble recognition of Her Majesty's gracious protection of the arts of peace.'

Extract of a letter from Major Jervis, referring to his maps.

'FLORA VILLA, AVENUE ROAD,
'*March* 6, 1845.

'I may be allowed to state that the most competent judges in such matters, among whom I may name General Pasley; Captain Beaufort, the hydrographer; Mr. W. R. Hamilton, President of the Royal Geographical Society; Mr. Faraday, and others, have pronounced the specimens of my lithographic press as surpassing in beauty and taste anything that has been seen in England.'

As we shall see, Orientalists formed a like opinion:

'ROYAL ASIATIC SOCIETY,
'*May* 30, 1845.

'SIR, . . .

'The usual formal letter was prepared for signature after the presentations of the beautiful specimens of lithography you were so obliging as to send to the Society, but I did not send it, because I felt that more ought to be said, and that the printed letter was not a fit acknowledgment of your communication above referred to.

'Allow me now, however tardily, to assure you that the Council contemplate with the greatest satisfaction the success of your lithographic labours, and that it will afford them unmingled gratification to contribute by any means in their power to their being more generally appreciated, and more extensively used for the advancement of knowledge and science.

'I have, etc.,
'R. CLARKE,
'Hon. Sec., Royal Asiatic Society.'

Colonel Sykes, one of the Directors of the East India Company, and a distinguished scientific Indian officer, fully concurred as to the beauty of the work turned out from Major Jervis's little establishment; he writes:

'47, ALBION STREET,
'HYDE PARK,
'*February* 18, 1845.

'MY DEAR JERVIS,

'Your handiwork is too familiar to me to excite any surprise at the beauty of the specimens of lithography now sent. The sharpness of the impressions, and the delicacy of the hair-strokes, are, indeed, remarkable, and it is to be regretted that public establishments do not avail themselves of the artistical means at your disposal. But it is a difficult matter to get heavy bodies to move at any time, and when they do move to get them in the right direction. Habit and prejudice are sturdy opponents, and even all your zeal, which I fear always has, and always will, outrun your prudence, cannot make people appreciate your views. Some of your plans have an unquestionable advantage, which everybody can understand.

'The official forms, for instance, and post-office orders; but the question would immediately be, "What would be the cost, compared with the present system?" . . . But you had better come to the India House, and we can then talk over your wishes. Meanwhile I will show your specimens to some of my colleagues.'

So loyal a soldier, no approbation so greatly inspirited him as that of H.R.H. Prince Albert and Her Majesty the Queen, which was freely bestowed on him from this day onwards. To H.R.H.'s secretary he writes:

'ATHENÆUM CLUB,
'*May* 26, 1846.

'MY DEAR SIR,

'I am happy to send you, though not so soon as I had hoped, the first volume of my series of Geographical Memoirs—Baron Hügel's "Travels in Kashmír and the Panjáb"—for H.R.H. Prince Albert, who was the first to subscribe to and patronize my geographical undertakings and maps, and I shall ever look with gratitude to

H.R. Highness for this distinguished favour and condescension. . . .

'I am most desirous, as I am prosecuting my series of Geographical Memoirs, to solicit H.R. Highness's interceding to procure for me Her Most Gracious Majesty's patronage to my undertakings, and am fully assured that this first volume will amply bear out H.M.'s gracious condescension, as in the case of the plan of Peking and map of Bokhara, which I had the honour to lay before H.R. Highness, and by whose singular favour I was permitted to inscribe them to Her Majesty.'

Ever on the look-out to keep pace with the discoveries of science, and all those practical improvements which were introduced, Major Jervis always set his heart on seeing how far these might be made subservient to the welfare of India, and how far he might conduce to their introduction into the land he so much loved. Thus, his attention was directed to the beautiful Persian system of keeping the interior of houses cool, and establishing efficient ventilation, while protecting them from the fierce heat of summer, by the use of windows in which glass is substituted by perforated bricks of artistic designs. On the other hand, he had followed the lectures on chemistry given at the Royal Institution by his friends Brande and Faraday, and he bore in mind the great physical law upon which Davy constructed his safety-lamp, viz., that the thickness of a non-conducting screen was immaterial in opposing the passage of heat through perforations, wire gauze being as effective to that end as a far thicker medium.

Visiting Messrs. Braby's important zinc works in London, he was led to admire the admirable artistic designs of their perforated sheet zinc, already employed for meat-safes. He thereupon ordered a certain quantity of sheets of various patterns, to serve, in lieu of glass, for windows, as well as of galvanized iron, such as was employed for roofing purposes, sending them out to Calcutta, and to his elder brother, Colonel George Jervis, Chief Engineer at Bombay.

These points are alluded to in a letter to his brother:-

'DARTMOUTH,
'*November* 5, 1846.

'MY DEAR GEORGE,

'. . . In regard to the perforated zinc, I could get anything made up to any order or pattern, framed, painted, ornamented with more or less taste, and finished with good proper fastenings, adapted for public or private buildings, and the many ornamental and useful purposes to which the material might be applied in India—zinc roofs, tanks, window sashes, pipes, etc. . . . I sent out a couple of framed sashes of perforated zinc and a complete set of patterns by my wife's niece to her husband [Mr. Fenwick] in Calcutta, and the same also to yourself. . . . I concluded that such specimens were quite sufficient to display in your office or elsewhere, to recommend this elegant material to the natives and to the Government. It struck me from my own knowledge that this would be a most admirable substitute for the ugly, unsuitable plank shutters in all hospitals and public buildings, admitting in the hottest day a mild soft light, and also breaking the force of wind or rain, while it allowed of sufficient ventilation; such, in fact, is the purpose to which it is turned in this country.' Adding that he could also send out all descriptions of iron work for bridges and roofs, as well as galvanized iron and asphalt felting for roofs, and a variety of articles for building and economic uses and railways, he writes: 'I did entertain some idea through your powerful and friendly aid, and the hopes held out to me by Captain Goodfellow on his return to India, with whom I had several conversations on the subject, that something might be done even in regard to public buildings. With the native community a word from you might go a great way; Jamsetjí, Framjí, and others are constantly contriving and constructing some new works or buildings, or devising some new resources of trade. While I look at the elegant and splendid light roofs of iron framing with felt or slate, thrown over the

railway-stations throughout England and the Continent, how applicable would they be for barracks or other buildings, and for light iron bridges, which for many of the deep *nullas* and ravines on the great thoroughfares from the coast to Belgaum and Dharwar, and particularly in Gujarát, might be put up at a fourth of the cost of those clumsy and expensive substitutes of wood and stone now erected. There is one torrent on the Vingorla road to the Ram ghát at Bhedsi which in the rains is quite impassable. Such an iron bridge at that spot would be of the greatest value to the passage of troops, and goods, and passengers, and the charge might be defrayed by a very light temporary toll, till the first cost was recovered. There is another between Dasquon and Mhar, in the Konkan, and several at other points on the rivers in the same country. Travellers' bungalows and convenient *chatrís* or *dharmesálás* might be put up in numerous places in the course of a few days, with light cast-iron pillars, broad, light iron-framed roofs, and the cost be recovered by a very slight impost on travellers and goods. This would be a vast step in advance of the present insecurity in India.'

Walter Abraham wrote a most gratifying letter to Thomas Best Jervis from Bombay, but he did not live to see it:

'Sixteen years ago you may remember one Sergeant West bringing a young lad for employment in your office at Chowpatti. That lad was myself. You admitted me, and, on leaving, recommended me and thirty others to Colonel Dickinson. You will, I am sure, be glad to know that I have done justice to your recommendation. I was appointed head-draughtsman of the Chief Engineer's office, and am now enjoying the benefits of your kindness.

'Ramchunder Hinjí, Ramchunder, the head clerk, José Maria Gonzalves, and poor Cloak are dead; Hyumjí is on the pension-list; Huskeljí and Custodio are still in this office; José Joaquim de Souza is in the Engineer's office at Belgaum; Marshall is head-draughtsman in the railway office in Scinde. We all think of you, and pride ourselves as having been your pupils.'

CHAPTER XI.

CONSIDERATIONS ON THE FUTURE ADMINISTRATION OF THE COLONIES AND INDIA—ON THE EMPLOYMENT OF CONVICTS, WHO OUGHT NO LONGER TO BE TRANSPORTED TO AUSTRALIA, ON ACCOUNT OF THE INJURY THEY INFLICT ON THE COLONISTS.

'Rulers ought to give honour to the Gospel, and to hold it high with both hands, for it upholds them and ennobles their position and office, so that they know what their calling is, and can perform its duties with a good conscience.'—LUTHER'S 'Table Talk.'

THOSE who have been over one of the magnificent steamers of from 5,000 to 6,000 tons burthen which trade regularly between Great Britain and the various ports of Australia and New Zealand must have been greatly struck with the excellence of all the arrangements for the third-class passengers, and the superior accommodation afforded to emigrants, no less than the respectable, intelligent appearance of these latter, each provided with a decent outfit. A vast change for the better has come over the manner of taking emigrants to Australia since 1849, when Major Jervis, who happened to be staying for a short time at Plymouth, interested himself by visiting an emigrant vessel in the harbour, and placed himself in communication with the Colonization Society, then lately instituted, for the reform of glaring evils which existed. The scene which presented itself on board was not one easily to be forgotten by the writer: a sailing vessel of small size, crowded with human beings of both sexes, stowed away in the easiest

manner possible, with wooden partitions run up to economize space. The emigrants embarking for an unknown country, in search of fortune, which had not smiled on them at home, mainly because they were not acquainted with any art—the females in the most pitiable condition: young, in most cases friendless, poorly clad, and badly equipped—presented far rather the appearance of being about to be transported for some misdemeanour than voluntary passengers, nor had they the remotest notion of what awaited them on landing. The partings from relatives, when such there were, in taking their last farewell on board, presented heartrending sights. A preliminary visit to such a vessel would have surely sufficed to deter the most courageous from all thoughts of emigration. Moreover, the morals of the poor young girls were severely tried during a rough voyage round the Cape of several months in such a prison, for in those days the bulk of them was recruited from the lowest and most ignorant classes of the population, such as, happily, are very rare nowadays.

A lady member of the young Colonization Society records the following sad picture in a letter to Major Jervis. Her noble exertions have not been thrown away, as all may judge.

'PLYMOUTH,
'*February* 26, 1849.

'DEAR SIR,

'I will very willingly comply with your request, and give you all the information I can respecting the spiritual necessities of the emigrants, and the peculiar trials and temptations to which their long voyage subjects them; but while I am not afraid to bear testimony to the truth, I feel that, in speaking of the evils existing in emigrant ships, I am treading on very critical ground, and that, in the infancy of our Society, it would be very unwise for one of its members to say or do aught that could irritate the powers that be.

'I think it must be very generally known that no regular provision is made for the instruction or employment of the

emigrants during the voyage, the only person in whom any authority is vested being the Surgeon-Superintendent, and he, in most cases—though not all—is a very young man, who undertakes a voyage or two preparatory to commencing practice on his own account. To him alone is confided the moral, as well as the physical, charge of the people. He has access to the various parts of the ship at all hours, and in order to reach the hospital, where his stores and medicines are kept, he is obliged to pass through the sleeping apartment of the young women, and it is he who opens the door in the morning. He also has entrusted to him a large supply of wine, beer, spirits, and other stores, with no one to control his use or abuse of them. I need not say that *hitherto* the class of young women emigrating has usually been taken from the provinces, and the most ignorant of the community, so that, being suddenly transferred from scenes of poverty, or hard service, to the ease of ships, where their temporal wants are abundantly supplied, without the exaction of labour on their part, they are exposed to great temptation from the want of occupation, and to many trials of temper, from being gathered from the different parts of the kingdom, and possessing various dispositions. They who were hitherto strangers to each other are compelled to spend four, and sometimes five, months together in unavoidable intercourse.

'The discomforts incident on a voyage, especially in its commencement, call into exercise the more selfish principles of their nature, and in the midst of sickness, with limited accommodation and few redeeming elements amongst themselves, jealousies, party feelings, and dissensions soon spring up, and, for the lack of other occupation, grow up into fruitful sources of discomfort and evil for the voyage.

'In many cases there are no cabin passengers, from the strong feeling existing against emigrant ships; hence the surgeon and officers are, during the listlessness and monotony of a long voyage, themselves deprived of the influence of

refined female society, and it often happens that vice commences in the cabin, and, receiving there its warrant, spreads through the ship, and those who should be the guardians of the young people are their betrayers. I am sure that in the last voyage I made with my husband, had it not been for his high religious principles, which led him to be always on the watch, and the respect which his example inspired, much vice would have been sanctioned and permitted, from the improper character of the person who had the nominal care of the emigrants. He selected as his hospital woman a young girl of twenty (though I suggested as a suitable person an elderly widow). This girl's time was almost entirely spent in waiting on him, for he remained the greater part of the time in the hospital, in listless inactivity, and she and many others received daily allowances of beer, etc., which ought to have been reserved for the sick and feeble. My husband and myself formed such an opinion of the doctor during the voyage, that when, four months later, we left, we preferred risking the voyage without a surgeon, because there was only a choice between him and another doctor of an emigrant ship. One good, conscientious man did we meet with among the many surgeons, and in his praise I cannot speak too highly.

'The feelings of the colonists towards the emigrants from the above known evils are marked; they require servants, and must take such as offer, but in very few cases will a lady venture to an emigrant ship to select one, from the dread of encountering the disorder prevalent there, consequently the husbands go on the errand. During the two years I resided in ——, the most respectable families there preferred engaging female convicts to emigrants, because the discipline they were subjected to on board ship so much surpassed that of the latter.

'That an emigrant ship is too often a continued scene of every unholy act and feeling I dare not deny. How can it be otherwise while emigration is conducted as it now is? But I believe that, without great difficulties, a voyage might

be converted into a period of moral training for new duties in a new home.'

After familiarizing himself at Plymouth with this subject, Major Jervis addressed the following study from Hayle, in the form of a memorandum, to Earl Grey at the Colonial Office, illustrating what was the condition of the British colonies about the middle of the nineteenth century:

'. . . The European world is usually too much engrossed with its peculiar concerns and interests to send its thoughts further than the acquisition of wealth, or dominion, or the means of disposing of its superabundant population. Wealth, anyhow gathered by the community, is indifferently carried to the general account of commerce; the military occupation of a territory is dominion; and colonial possessions, of whatever nature, the great safety-valve for discontent, disaffection, and crime, the outer court of the Gentiles, the stern domain of those who cannot obtain a livelihood in their native land. This, in the abstract, is the estimate which a large majority of persons have long been accustomed to form of our colonies—a sort of conventional exile, to which very few would willingly submit if they could avoid it. Nor will the accuracy of this information be doubted if we glance over the numerous publications on the subject, or visit an emigrant ship, crowded with human beings, as it awaits its orders at the anchorage ground, or a favourable wind. Let those who consider such a statement overdrawn reflect on the moral destitution, the singularly helpless condition, of the multitudes there congregated, without reference to faith, habits, or early education, who go forth annually, many of them knowing not whither, to the remotest parts of the earth, with no other thought or purpose but that of present subsistence.

'There are those, however—and we may well rejoice in the fact—who entertain very different feelings, and perceive in every accession of national prosperity and riches the

privilege of directing them to the more extensive interests of humanity; in the exercise of British dominion they hail the wresting of power from the grasp of despotism and heathen darkness, and in the colonial dependencies recognise the assignment of a work of greater magnitude and delicacy than was ever contemplated by the most ardent advocates of missions, the practical exhibition in the person of our emigrants of an intelligent, industrious, and Christian people going forth to bring not only the untenanted wastes to a high degree of productiveness, but to raise the character, and contribute essentially to the moral restitution, of their benighted fellow-men to light and liberty.

'A contrasted retrospect of the results of the thirty years of war, and the subsequent thirty years of peace, would abundantly demonstrate the intentions of Providence as to the timely occupation of these extensive regions by the civilized nations of Europe, and the promotion of all those measures which have been set on foot for the reclamation of the heathen world from their degradation and mutual enmities. In the former period there were no perceptible marks of any anxiety or possibility of fulfilling this design; every arm was lifted against its fellow in destructive contention for the ends of a wild ambition, or arrayed under the various banners of its opponents. No thought was taken of any foreign possession but as an outpost of defence or aggression, and every other consideration became subordinate to these objects. The restraints of jealousy and war being at an end, no bounds were set to the activity of mind and body in exploring new fields for commercial adventure, or to enrich science by new discoveries. In these researches the importance of our colonies gradually came to light, and led the observant adventurers to think much on the vast capabilities and resources of these remote regions. Many families of military men and officials, who had gone thither in the regular way of duty, had learnt to appreciate the advantages of the climate, the freedom of life, and the sphere

of employment to which they had every facility of access, and, when permitted or able to do so, often settled down. By such, and other collateral means, the colonies became known as a desirable resource to a number of persons of whom the Government had taken no account, till at length the report of their value had indirectly reached the ears of legislature.

'Still, every beneficial measure for the maintenance and *administration of the colonies as an integral part of the British dominions* was tardily acquiesced in, and then only authorized from absolute necessity, every move towards such a consummation, as it emanated from the Ministers of the Crown, being treated as a very questionable extension of colonial patronage and an unwise alienation of the public money. So little regard was paid to the value of these dependencies, the real nature and rights of the original occupants, and the ulterior consequences of every step, that lands were in the first instance disposed of in the mass, without the slightest reference to any one of these points, as in the memorable instance of the grant of Canada to the Earl of Stirling, the early Spanish cessions to Columbus and his descendants affording most probably the precedent.

'Subsequently such grants were successively modified, till they were eventually vested in Commissioners expressly named by the Crown, without respect to the very different circumstances of the several countries geographically and physically, and more especially to the *rights and claims of the aborigines*. This same outrageous devolving of absolute sovereignty has been recently re-enacted in Borneo, under the sanction and protection of the British flag.* Its results are well known.'

On this subject he elsewhere writes:

'In any new settlement we have to redeem the good name

* Rajah Brook being to all intents and purposes the independent sovereign of Sarawak.—ED.

we have forfeited, and introduce civilization and Christianity by missionary, educational, and every judicious effort, where hitherto oppression, libertinism, and murder have left us indisputed possessors of the soil. We must foster and protect the indigenous population, and if we acquire territorial right, obtain it by some recognisable fair equivalent to those who may have any reasonable claim to it. But *that we can enter upon any settlement unconditionally, without respect to existing rights, is very doubtful.* Such rights might often be obtained on very easy terms, more than enough for the profitable occupation of any colonists. . . .

'Here, then, are to be traced the first and manifold sources of those difficulties which have embarrassed colonial administration. The wholesale appropriation of territory, rights, liberties, and claims—an exercise of despotic power of which Eastern history does not furnish an example; next the lavish distribution of those lands, reserving the rights of sovereignty; and, lastly, the unreserved delegation by Parliament of the right of allotment and sale of such lands. . . .

'Englishmen, wherever they go, are seen to carry with them a more than ordinary predilection for their native land. . . . Perfect freedom is our birthright—a freedom to live, to labour, to do good, and contribute in our several stations to the happiness, but not to the spoliation, of our fellow-men; to extend the influence and liberal institutions of our country, but not to arrogate rights to property and subservience which are in direct violation of those institutions. *That freedom*, indeed, *implies the moral and religious instruction, as well as the unqualified admission of the aborigines, or occupants of the colonies, to equal rights and protection from injury*, which is with many of our colonists a very disputed point, and has even been pronounced to be so by the judicial authorities. With the Christian, with every sober mind, with the legislature, we may boldly say this principle is a *sine quâ non*.

'Then there is that peculiarly British habit, so obnoxious

to life, to every right and virtuous feeling, the besetting intemperance which has done more mischief to the aborigines in our infant settlements throughout the world than war or pestilence. This is greatly fostered by the permissive establishments under Government sanction for the purposes of revenue—a probationary trial for many a colonial functionary.

'Next to this is the neglect of those industries which might wonderfully augment the resources of particular colonies, and greatly enrich the colonists themselves, to such an amount, indeed, as absolutely to render those colonies perfectly independent of subsidies from the mother country. . . .

'Where is the camel, the many varieties of the horse, the dray horse, the Arab; the Tartar and Burmese sturdy cattle, and those of Persia, long-legged, and calculated in a peculiar manner to endure great fatigue in countries where drought and heat go together? Where the small oxen and goats of Arabia, the huge and powerful draught oxen of Western India, the buffalo, the alpaca, the llama, and that humble and far more useful drudge, the ass, which in Egypt and Arabia attains to a great size? These and many of the domestic animals of India, Tartary, Thibet—the shawl-wool goat, Gayal and Bokhara sheep—would be of inestimable value in Australia,* the Cape, and British Guiana.

'Where, too, it may be asked, are the date-palm, in tropical Australia, the cocoanut, sago, the cassava or tapioca, the arrowroot (a wild and inconceivably abundant root in India), the maize, cotton, sugar-cane, indigo, tea, coffee; the olive, and a large variety of the spice and fruit and timber trees and plants, such as the camphor laurel (*Laurus camphora*), the various *Sapotaceæ* or gutta-trees, the teak (*Tectona*

* The truth of these counsels may be perceived by the fact of the subsequent extensive introduction of the alpaca, the llama, the camel, the Arab horse, the Egyptian ass, the silkworm, into Australia. Of economic plants the same may be said, especially the sugar-cane, cotton, the olive, date-palm, cocoanut, sago, the tea and coffee plants, the cassava, maize, and arrowroot.—ED.

grandis), the *Dalbergia Sissoo*, the *Cæsalpina sappan*, the *Garcinia Travancorica?* Of two of these—the coffee and the maize—it may safely be affirmed that the geographical range is more extensive than that of any of the vegetable tribe transferred to the Cape or Australia, and would yield a far greater return with less labour. I may add also, from my own personal experience, that the culture of these is attended with far less skilled labour and less liable to failure than the cereals. It would be an experiment also worth examination whether those descriptions of mountain rice, and other grains of India, could not be found equally fitted for the highlands of Australia and South Africa—the lands of the interior more particularly—as of the parts of India which are liable to great or occasional deficiencies of rain. Where labour is scarce and dear, these generally inexpensive articles of growth would be useful.

'The rearing of the silkworm in Natal, Swan River,* and Eastern Australia would be attended with undoubted success. It is surprising that, when any attempt has been made to introduce these, it has been by foreigners. The vine was first introduced at the Cape by French Huguenot refugees from Nantes; cotton is now being introduced with success at Natal, not by our own countrymen, but by German emigrants. To Dr. Liesching, a Prussian, the Cape is indebted for an attempt to introduce the silkworm. . . . The cultivation of the yam and other plants of that nature would often be found more congenial to the climate and soil than the potato. The cochineal as a valuable article, and the plantain in all its varieties, would be of incalculable utility. All the cucurbitaceous and leguminous plants, the *Solanum melongena*, and some esculent vegetables, are widely spread over India, Egypt, Italy, and France, and afford in warmer climates as useful and valuable a return as turnips in England. . . .

'I may mention in corroboration an instance of success

* Now Westralia.

which occurred in 1826, when a young officer, then recently married, was brought under the consequences of an act of neglect, and cashiered. His situation being much commiserated, he was counselled to emigrate to Swan River, and a large subscription was raised by many benevolent persons to enable him to go and settle there, to which, among others, the Hon. Mountstuart Elphinstone, the Governor of Bombay, contributed £150. My own and my brother Colonel George Jervis's contribution consisted of a large collection of plants, seeds, fruit-trees, and fishing apparatus. We received intelligence in due course that the plants had been received, and much valued by the Governor, Sir James Stirling, the plantain particularly—a fruit plant which, be it remembered, yields sixty-five to eighty pounds nutriment of the most delicious and wholesome nature; and Humboldt has calculated that 400 such plants would grow in an acre of good ground. The fishing tackle also was of the greatest value, and the means of support for a long time.

'The introduction of the cochineal insect, the tea and coffee plants (ten or fifteen years ago), maize (about half a century ago), are thus of very recent date in India. Tobacco was brought into India during the reign of Akbar, at the beginning of the eighteenth century, and is peculiarly productive. Many oil-producing nuts in India, such as the ground-nut (*Arachis hypogœa*) and the castor-oil plant (*Ricinus palma Christi*), are foreign to it. Many trees—the casuarina, bread-fruit, and Tahitian cane—were brought to Bombay by Captain Cook, and at a later date by Captain Owen. The cassava, or tapioca, was introduced into the Portuguese dependencies by that people between 1700 and 1720 throughout the southern districts of the viceroyalty of Goa. The date palm was transferred from Persia to India in the eighth century by the emigrant refugees, the ancient Parsís, driven from their native land by the Mahometans. . . .

'If the dromedary from Egypt, or Western Arabia, were

introduced, it might be found of indescribable service for years to come in the conveyance of the post, being equal to a journey of 80 to 100 miles a day, and to the carriage of such a light burthen as the mails of our colonies, without detriment to its speed. The introduction of the breed known in Hindustán as the *Hurkáru*, or messenger camel, and used time immemorial in the service of the ancient Governments as a means of despatch, might even be attended with a small saving to the colonial exchequers, and furnish employment to some natives of the country. . . .

'Of mining little further need be said than that there is reasonable ground for believing that every part of the earth, however apparently sterile and unpromising, is capable of yielding something. It seems to cry out instinctively, "Try, search, satisfy yourselves," and the very deserts will, in the pressure of human industry and necessity, be subjected to such an examination with a sure reward. The nature of the copper mines discovered in Australia bespeaks the existence of other like deposits of mineral wealth,* and every colony may possess some peculiar resources of this nature, which only need to be explored by competent persons to be rendered available to the general funds of the colonial Governments.

'A proper officer, well skilled in geology and mining, officially appointed, with some three or four intelligent miners, would soon set his mind to work to discover such resources if his services were contingent on his activity. And the like might be said of a separate and competent person skilled in botany, not in either case mere collectors for museums or horticultural amateurs, nor, on the other hand, mere gardeners or farmers, but well-educated and philanthropic men—none, perhaps, more likely to afford it than the medical profession, though not absolutely restricted to such class. The appointment, emanating from the Crown, would be sought after by able and honest men

* Gold was discovered in New South Wales and Victoria in 1851. —ED.

as a high and responsible scientific office, and their remuneration, coming out of the colonial funds, be abundantly paid by their public discoveries. . . .

'Of shipbuilding it may be remarked that the Spaniards in the Philippines, the Dutch in Java, and the Indian Government at Bombay, Cochin, and Calcutta, have shown that finer vessels and less costly, while of greater durability and worth, may be constructed for the Royal Navy and mercantile marine than in England, and all this accomplished with foreign timber, and with other than European labour. While the timber for such purposes is becoming more unfrequent and expensive in Great Britain, *we may congratulate ourselves upon the boundless resources of our colonies.* There are other places contiguous to, or dependent in some way on, these colonies for the necessaries of life, which furnish inexhaustible quantities of the best description of timber, as the Burman coast, Cochin China, and Borneo. Over the shores and islands of these countries in the Eastern Seas, the Chinese are sending out yearly large numbers of industrious, able-bodied, and skilful workmen, who have taught the Malays shipbuilding and many other useful arts. It would entirely disabuse any person of many prejudices were he to see the power, the skill, and the judgment displayed by the Parsí carpenter in India, or the Chinese in the Eastern Seas in wielding the adze and the implements of mining. Such example, with their habits of self-denying contentment, would inspirit our countrymen to a generous rivalry. To this branch of industry, and boat-building for the fisheries, all our colonies are open, and this is far more likely, by the employment of the aborigines and natives of whatsoever country, to withdraw them from habits of piracy than any constraint of arms or hostile demonstrations of superior force.

'At the principal establishment of Pangasinan at Cavite, in the Philippines, the Spaniards have had most beautiful vessels of war constructed by the natives at a third of the cost which would have been incurred for like dimensions

and tonnage in Spain. In Borneo the price for small vessels is comparatively cheaper. Nothing stands in the way of such operations in Northern Australia and the African ports.

'. . . The colonies constitute a vast field for the production of raw materials, but any branch of manufacture on a large scale operates as a withdrawal of capital from its legitimate channels to other and wrong purposes, and inflicts an incalculable injury on the manufacturing skill of the parent country. . . . With the above exceptions, mining, and some other arts, the greater part could be more successfully, and for both parties more advantageously, carried on in Great Britain, the great workshop of the world.

'The amazing facilities of transit and correspondence, the cupidity for gain which daily sends forth its emissaries to retreats not yet reached by the missionaries of the Cross, the swelling tide of indiscriminate emigration from all parts of Europe, and the various education of those appointed to the several offices in our foreign possessions, concur to throw an inconceivable amount of good or evil into these *embryo forms of future Empire.*'

But Major Jervis boldly denounced the unjust and ill-judged policy of continuing the old system of transportation of the vilest dregs of the population of the British Isles to Botany Bay, there to be a positive curse, within a short distance of Sydney, to the orderly emigrants. He has the honour of being one of the first prudently to draw serious attention to this crying evil, and he would seem even for years afterwards to have stood almost alone in his conviction.

1. *Considerations as to the future disposal of convicts, in a paper communicated to Earl Grey, Secretary of State for the Colonies.* 'HAYLE, CORNWALL, '1849.

'The further transportation of convicts to Van Diemen's Land (Tasmania) and Australia is daily becoming a subject of

greater embarrassment to the Government, involving as it necessarily does an inadequacy of purpose in the judicial condemnation, and the infliction of a positive wrong on those who have never violated the laws of their country. The facilities of escape, the great temptations held out to the commission of offences, in view to transportation, and the well-authenticated *frequent admixture of persons of notoriously hardened and depraved character* with half-educated, simple emigrants, transferred to a new and remote colony, beyond the reach of that established authority, example, and religious instruction which in Great Britain are the most efficacious restraints on immorality and crime, constitute a sore grievance, which, if not put a stop to, may in process of time weaken, and ultimately dissever, the strongest ties of subordination and allegiance of Her Majesty's colonial subjects. But the question remains, Where else can the convicts be disposed of?

'My acquaintance with foreign countries, and frequent intercourse with persons engaged, like myself, in geographical pursuits, led me to the consideration of the Peninsula of Valdez, in Lat. 41° S., midway between the Falkland Islands and the Republic of La Plata. This most remarkable locality, connected with the mainland by a narrow and hilly neck of land, is about forty or fifty miles from north to south, and somewhat less in breadth, approachable with difficulty, except on the south, where there is good anchorage in the large bay of Porto Nuevo. It is in every way exceptionable, politically and physically, so far as its occupancy or claim by any power or people might throw impediments in the way of such purpose, and is backed by a territory very thinly inhabited—in truth, scarcely occupied but by wild cattle; the climate is excellent, and does not greatly differ from that of Van Diemen's Land.'*

* This peninsula now forms part of the territory of the Argentine Republic.

'2. *Propositions respecting taxation.*

'The delicate and difficult question which demands the immediate consideration of Government, rendered more peculiarly so at this juncture in anticipation of the various complicated effects of inordinate Continental and home speculation, and the probable enhanced prices of labour and every necessary of life, consequent on the increased production of the precious metals, will require no ordinary forethought and concern, although whatever plan be devised it will necessarily be open to some objection, and its eventual results be rigorously investigated by the community. It seems to be universally admitted that the burdens of the country should fall equally on all, according to their means. Some method, then, must be devised which shall affect all impartially, regard being had chiefly to its operation under an entirely different state of things, the increased determination of large capital to countries beyond the reach of taxation, scarcity, and not impossibly war.

'The far more essential desideratum than adding to, or continuing, the present system of taxation would be to discover any practical mode by which the *revenues of the country could be collected at less charge*, or judicious reductions be made in the public expenditure; and lastly, that every possible facility be held forth to the extension of our commerce with those foreign countries which do not at present occupy an important place in our accounts of export and import trade—some, indeed, not at all; these are China, the Siamese Peninsula, Madagascar, the coasts and *interior* of Africa, and, if it were practical to include them, Japan and Corea. Such commerce would swell the least objectionable of our imports, and afford the liveliest satisfaction to our mercantile and manufacturing population.

'. . . Such a stamp or duty might be levied as would reach all classes precisely in proportion to their means, yet in no such way as to appear onerous or obnoxious, because so universally spread over the whole money transactions of

the entire population, and reaching indirectly by way of *charge* (I have purposely used that term), and not of *tax*, to all the subjects of the British Crown living under the protection of the British flag, whether at home or in the colonies or dependencies. The large amount thus raised would be such as to admit of the discontinuance of several items, the repeal of which has been long and earnestly insisted upon, as attended with peculiar difficulties and vexations in the collection, and grievously affecting the progress and interests of society—for instance, on paper. The mode in which it might be raised would be as follows:

'First: *to levy a duty of one penny on every ordinary receipt* given by every tradesman, or whatsoever persons, *for any amount above five shillings and under five pounds, such a stamp being simply affixed, similar to the present post-office stamp but distinguished by some different device, the neglect of which invalidating such receipt, and subjecting to a penalty of* ——

'Secondly: *that all bankers' cheques and promissory notes under ten pounds should be subjected to a stamp, or duty, of threepence, and all cheques above ten pounds and under fifty pounds of one shilling, and so on, according to a well-considered graduated scale,* and for each and all separate endorsements a further stamp of like value should be affixed in affirmation of their validity.

'Third: *that all tickets issued by railways or steam-vessels for distances under twenty miles, whether for personal conveyance or luggage, be subjected to a penny stamp, and for distances over twenty miles a threepenny stamp.**

'Lastly: *that an office be opened in each of the colonies and dependencies of the British Crown, in India at the chief towns of the three Presidencies* (if not admissible under the present, at least under the new charter), *for money-orders payable in this country or abroad, at a charge of threepence for all sums under five pounds, sixpence under ten pounds, and*

* All tickets for short journeys under twenty miles should be exempt from taxation, which would not be possible.—ED.

so on, according to a well-considered graduated scale, for sums not exceeding one thousand pounds, according to a rate of exchange (where the currency is different) fixed and publicly ratified by Government quarterly.

'This latter facilitation would be hailed as a boon by our countrymen scattered throughout the world, and ensure to the families and relatives of those abroad, whether the military, naval, or the mercantile service, and those otherwise engaged as mechanics, labourers, or elsewise, the safe, full, and early payment to their relatives of the sums which, under the present circumstances, rarely find their way to this country. It would realize an amount greatly exceeding that proposed by former administrations, and operate less severely, as it would undoubtedly be spread over every possible transaction which concurs to the wealth and subsistence of this country.'

3. *On the extension of our commercial relations, and the most effectual course for the gradual and complete suppression of slavery.*

'The time has at length arrived when the greatest undertaking the world has ever contemplated is in train of immediate realization by the construction of the interoceanic canal across the Isthmus of Darien, the Government of New Grenada having recently conceded its execution to Messrs. Fox, Henderson and Co., and the Governments of Great Britain and the United States concurred in a treaty to ensure its freedom and advantages to the whole civilized world. It remains to consider how this and the projected railway across Central America from the river Coatzocoalcos, near Vera Cruz, to Tehuantepec, on the Pacific, conceded also to the same firm by the Mexican Government, can be executed under a tropical sun.* This can only be effected by *Asiatic* labour, since the possibility of bringing any large amount of European labour, even if so hazardous a project

* These undertakings were not executed; the younger generation may yet carry them out. The Suez Canal has caused people to neglect them. —ED.

were contemplated, to this foreign and distant region, is altogether hopeless, and the amount of ordinary labourers procurable on the spot far too limited for such a stupendous undertaking.

'Overpressure of population throughout China on the means of subsistence, and the recent vast influx of the natives of Tartary on the north-east from the Russian and neighbouring territories, whither they had migrated, occasions that Government to acquiesce, and the labouring population of China to desire removal, and these emigrate readily in great numbers to Borneo, Java, the islands of the Eastern Archipelago, and more recently to California. Under the avowed guarantee of British protection and good faith they might readily be engaged on extremely favourable terms for a period of years, in such numbers as would ensure the earliest execution of these vast undertakings, in which case it would be necessary to have a most efficient, courageous, and humane person as Consular Agent in China, and a Consul-General invested with special magisterial powers to regulate and enforce just and humane treatment of these men, and the maintenance of peace and order among the assembled numbers of various nations and characters at the isthmus. The immediate effect of these undertakings will be to change the entire condition of the mercantile, and not impossibly to modify the political, institutions of the Old World. The more direct route of the steamers to Australia and New Zealand will preoccupy attention to this quarter, and a vast unexplored field of commercial enterprise throughout the Pacific and its shores be thrown open; besides, what is of greater moment, the advance of civilization and the diffusion of the Gospel to regions where missionaries have never yet adventured.

'On the first essay of carrying out this extensive introduction of Chinese labour, and the humanity and wisdom with which the whole is conducted, it may be reasonably anticipated that, through the same instrumentality, the West Indian colonies may be raised to a high degree of produc-

tiveness and prosperity, probably greater than before the abolition of the slave trade, and thus a step be made in advance for the general substitution of free Asiatic for the present slave labour of Cuba, the Brazils, and the Southern States of the American Union.* The missionary will find ample field to diffuse instruction through the English language, to which their altered condition will be favourable. Caution, energy, and consummate humanity will effect in this first measure what neither blockade nor national treaties have yet accomplished.

'. . . The renewal of friendly intercourse with Madagascar is again in our power by the overtures made through the missionaries and other persons trading occasionally from the Mauritius, by the [Christian] Prince [Ratakond-Radama] who has succeeded to the government of that country on the death of his cruel mother, Ranaválona.† The appointment of a Consul-General to these rich and productive territories, exceeding France in area, with powers of entering into a treaty of commerce and friendly alliance, might be the means of bringing an abundant supply of cotton and other produce to our markets, with a certainty of a large reciprocity of our own manufactured goods exported thither. The French have made repeated endeavours, and are still anxiously seeking to form establishments in that country, but have invariably failed and incurred the hostility and determined exclusion of their own and other nations by their preoccupation in proselytism and unjust seizure of lands.

'The settlement and occupation of Northern Australia can only be hoped for by the immigration of Asiatics, and might be promoted by the introduction of Chinese and other labourers under a humane, prudent, and vigorous government, assimilating in its general principles to that of India, the great secret of which is not so much in our own rule as that of the ancient patriarchal village system, so well

* Slavery has thus ceased, but Africans are still ill-treated.—ED.

† The splendid opportunity of establishing friendly intercourse and commerce with Madagascar has been lost.—ED.

depicted by Sir Thomas Munro, and by Colonel Wilkes in his "History of Mysore." With such aids, under proper restraints, and with the counsel of someone thoroughly initiated in the Indian school, European capitalists of intelligence and energy might effect any amount of good. This, the last refuge of the unfortunate aborigines of Australia, might thus become one of the richest and most valuable possessions for the production of cotton, sugar, and every desirable tropical article. Such, in fact, is the constitution of the occupants and immediate cultivators of the tropical portion of the United States—American landlords with natives of tropical regions—without which last those fertile territories could never have been cultivated. We know what they now produce.

'In the present state of humanity, and with the most comprehensive respect to every dependency, large or small, of other States in all time, I venture to affirm that in our Indian Empire and its internal administration an anomalous but striking example is to be found. It stands confessedly unrivalled for its paternal and honest principle—an empire raised by the genius, the character, and the consistency of its executive, an administration repudiating every claim to consideration or preferment but experience and merit and unsullied integrity; disclaiming any precedence over its subjects but that of a higher intelligence, a better creed, and a more enlarged sympathy, resolved to hold and exercise the trust committed to it without respect to persons, to the astonishment of the world. Much has been thought of our Indian Empire as growing up, one hardly knows how, by the prowess of our arms or by the succumbing, as if by magical charm, of our opponents, to the terror of a well-appointed and disciplined army, to the divided counsels and intrigues of native courts, and the issue of some contest, few apprehending the slow but unperceived march of that wondrous empire, the right estimate of that mind and genius which organizes and directs the machinery of government.'

CHAPTER XII.

SCIENTIFIC GEOGRAPHY A BOON TO HUMANITY—HIS CYCLOIDAL PROJECTION — GEOGRAPHY NO LONGER NEGLECTED BY OUR COUNTRYMEN.

'Geography, while it explores the deepest recesses of Nature, should light up the darkest retreats of humanity.'—THOMAS BEST JERVIS.

THOMAS BEST JERVIS'S estimate of the vital importance of geography to mankind in every possible walk of human activity was one which it would be difficult, if not impossible, to surpass. As in viewing the landscape through the medium of red glass every object presents itself to us with a modified tint so as to be clothed with tropical beauty, so many a true man of science would appear to contemplate all things through the medium of his own favourite pursuit, which, blending harmoniously with other subjects of research, would seem to identify itself with them. Thus it was that he viewed geology, botany, ethnography, statistics, and numerous other sciences, as transformed into adjective forms subservient to geography, so as to become geological, botanical, ethnographical, statistical geography, and so on; and the same of commerce. Natural history, too, more punctilious of preserving its title, assumed the garb of geographical distribution of man, plants and animals. All, in its turn, was brought into subservience to the best temporal and eternal welfare of man, to the fraternity of the human race, as all members of one common family, to the spread

of the blessings of the everlasting Gospel to the benighted heathen through the privileged agency of missionaries. Geography was thus placed in the triumphal car of science, yet not to occupy the post of honour. She was but the lovely, obedient handmaid to accomplish the fiat of her superior Sovereign—the favoured charioteer to grace the eventual triumph of the Supreme Being. Did not the unrivalled philosophy of the ancient Greeks faintly point to like harmony of man's higher powers under the beautifully poetical image of the Nine Muses—each perfect in herself, and yet instinctively associated together as sisters? But to state the proposition in Thomas Best Jervis's own words:

'Astronomy and geography may be appropriately styled sister sciences. These are the two rich depots of facts to which all other researches contribute, the grand repositories to which such facts are evidently and necessarily referred, where they should be so distinctly classified and disposed, and in the last resort so harmoniously combined, as to present one comprehensive, intelligible whole; they fulfil in conjunction the true intent of such pursuits; to methodize and simplify other compendiums of physical knowledge, to bring their various details within the reach of our limited capacities and short existence, to make us better acquainted with our own constitution and abode, and the great Author of all things—to make us, in short, more reasonable, more contented, and more humble. Summarily, to deduce and appreciate the unity of design of all objects and phenomena with which they are conversant, and so to trace in the laws of either science that character which is strongly written thereon, of order, obedience, and all-wise goodness. Whether we wing our flight to the boundless realms of planetary space, or confine our attention with microscopic scrutiny to the minutest objects of the globe we inhabit, we are fain to acknowledge with reverence and delight the power, the wisdom, and the symmetry which pervade

creation; we thence discover and feel our relative situation and obligation to that great Being, whose fiat gave law to their existence, who alone wills their continuance or modification; of the greatest as not beyond His control, of the least as not beneath His care. . . . It is to the true figure of the earth that we must look for an accurate acquaintance with the motions and distances of the planets. Geodesy supplies a base-line by which to determine the position of those distant orbs, and expound the primary elements of physical astronomy; it is, in fact, by recourse to the details we offer that every problem of practical utility is reduced to positive certainty. . . . Every nautical observation possesses an interest so far only as it is connected with *terra firma*, the proper abode of man; at the same time, the medium by which a more extensive intercourse is facilitated between the remotest parts of the globe furnishes a conclusive argument of the intimate connection between geography and astronomy, since this last is the science which mutually determines the boundaries of land and water. And, indeed, whatever qualifies or affects those great laws of temperature, of the winds, of the tides and currents of the ocean, is attributable to the quantity, to the form, and the elevation of the land, with respect to the fluid by which it is surrounded, joined to its situation in respect of the equatorial and polar regions; for all these would be extremely simple and uniformly explicable, admitting that the outline, elevation, and proportion of the land had been otherwise than it now is.

'Hence, therefore, the geologist is absolutely dependent on accurate geographical data for all sound and rational conclusions, explanatory of those remarkable proofs of a warmer temperature in high latitudes, indicated by the fossil remains of many extinct species of animals and plants; and although we might aver, from analogy, that they could only subsist in tropical climates, we deduce the probability of such change of temperature by reasoning from facts within

our own reach—facts which are so much the more valuable, intelligible, and conclusive, as they result from accurate geographical and physical observations. Forasmuch also as these circumstances determine the habitation of plants and animals, and all work together to break up and prepare the crust of the earth for the sustenance and abode of man, it is to a better acquaintance with these particulars that we are to look for the extension of those enjoyments and limits which the earth is calculated to afford to increasing numbers, to the demands also of progressive civilization. The geologist finds every improvement in geography furnish new matter of study and speculation. The meteorologist, the botanist, and the zoologist, ultimately defer the generalization of their researches to that exact geography for which we now contend.

'. . . Vainly do we contemplate the changes which have supervened, or but faintly perceive in the page of the historian that instructive "philosophy which teaches by example," if unacquainted with the geographical and ethnographical divisions which then influenced the movements of society, which now at length we surely might have anticipated from the progress which has been made in other matters. The site of Babylon, of Nineveh, of Idumea, of Ujain, or of Troy, the sources and course of the Euphrates, the Niger, or the Indus, the former limits of the Caspian, the Run of Cutch, and the North American lakes, might possibly throw a degree of light on the early migrations of society, which are now veiled in the darkest obscurity from our imperfect knowledge of geography.

'. . . The very difficulty of pointing out the exact site of those great cities that have perished, and "whose memorial has perished with them," confirms and gilds the prophetic page. It tells what the inhabitants of earth have been, it tells what they will be. . . . I remember to have heard a dear friend, the late Rev. Gordon Hall, American missionary, observe, on hearing of our vast territorial acquisitions in Burma, that we were not to think of these conferred

on the British Crown without a purpose, that he was sure this was the highest it could have been entrusted with—to propagate there the privileges of sound religious liberty and a pure faith. . . . It is fair to conclude as much of science, nor can any reflecting mind look on the strides it is now making, and imagine it is permitted to advance without the same all-wise intention. *Subserving the important purpose of exploring the deepest recesses of Nature, it should also light up the darkest retreats of humanity.* Nay, my friends, if we really desire success to the one or to the other, to science or to missionary enterprise, we must first improve geography.'*

He urgently presses the importance and prerogatives of geography in 1844, while inviting collaboration in the prosecution of his researches on Asia. 'Every exertion that is made to promote those departments of knowledge which have a direct and avowed influence on the general welfare of mankind cannot but find acceptance with men of large and gifted understandings, and although many persons are disposed naturally to overestimate the tendency of their favourite pursuits in forwarding such objects, it cannot be denied that geography, in its proper acceptation, has a pre-eminent claim to consideration as a science. It lies at the very foundation, it embodies and connects the entire structure of a thousand delightful and important departments of physical research, which are not supposed at first sight to depend on it. . . . But there are some essentials which, at the very outset, present serious and peculiar embarrassment, and they are such as every geographer experiences—the *want of a definite and, as far as may be, universal standard of orthography*, a precise nomenclature, and conventional signs. These are points of so great moment that I trust I may be pardoned in soliciting your aid and superior judgment, in common with the friends enumerated in the

* Address delivered by Captain T. B. Jervis at the Geographical Section of the British Association, Newcastle-on-Tyne, 1838.

accompanying paper, to lay down such principles as may serve for publicity and go to establish a general and more certain system than has hitherto prevailed, and with such view I beg to forward you a series of papers published in India on "The Romanizing of Oriental Words and Alphabets of the various Languages used throughout India." '

'It is a reproach to our country,' writes Major Jervis in 1843 in the prospectus of his publications on the geography of Asia, 'that we invariably leave others to analyze and compound the fragmentary results of science and discovery which our own curiosity and observation have arrived at, and receive at a distant date, perhaps from foreigners, that which we might well have been proud of communicating to them in all its racy originality; while at the same time, by determining the tide of further inquiry into such channels, the British public would have had the earliest intelligence of every fact essential to its best interests. The works of Balbi, Malte Brun, Ritter, and Berghaus would have made but a poor show without the help of British materials, though it is delightful to see master-minds like these, of so much ability and aptitude to discuss their value, instituting investigations from these documents into questions of the most important and instructive nature. What accessions have they not brought to physical geography, to the systematizing of facts bearing on universal concern? They have called attention to our neglect, and suggested to us methods of a more pleasing description than have hitherto been followed by British geographers. They have taught us that this department of knowledge is not a mere dry epitome of facts, absolutely denuded of narrative or reflection, and which, as the mere annals in respect of history, indicate certain landmarks in space, as those in time; but that apart from irrelevant and speculative discussions, it may present in the spirit of that striking natural landscape from whence it is drawn up, some varied novelty, some curious and valuable

truths at every fresh step. It is to the illustrious Humboldt, that they, and we, must consider ourselves indebted for such comprehensive and just views of this subject, and on such models must all works be formed, which aim at an enduring existence and popular acceptability. This remark could never be put forward without allusion to the names of D'Anville and Rennell, as they who have chalked out the best and only course in works of an extensive geographical nature.'

Happily, these strictures, though too true when written, now form part of ancient history. Such a rousing criticism was a most useful one.

How the subject of this Memoir would have exulted had he lived to see the marvellous progress of British geography as displayed at the Imperial Institute, during the Geographical Congress of 1895, by the Intelligence and other Government Departments, colonial surveyors general, explorers, societies, publishers! The blot on our country has been worthily expunged!

Thomas Best Jervis long studied a method for the most faithful possible delineation of the sphere on a plane surface, and was led to devise his beautiful cycloidal projection, in which the distortion is minimized over large surfaces of the globe. Within 40° on either side of the central meridian the curves are very gentle; extending the latitude further distortion commences; still a whole continent, even Asia, may be drawn with comparative accuracy, and so of the United States. This projection is not suited for maps embracing latitudes stretching beyond 15° across the Equator.*

* To construct Jervis's cycloidal projection graphically draw a vertical line AB for the central meridian, dividing it into degrees B′, B″, B‴, and so on. Then draw the horizontal line C A D, passing through the pole A. The revolution of a circle along the line C A D, and whose diameter is represented by the distance of the given parallel from the pole, will give the curves of latitude. The longitude is determined by the corresponding arc of the revolving circle. Of course, the curves can be calculated mathematically.

CHAPTER XIII.

1854—1857.

THE EXPERIENCED GEOGRAPHER AND THE CRIMEAN WAR — RE-ASSUMES ACTIVE SERVICE AS ORGANIZER AND DIRECTOR OF THE TOPOGRAPHICAL AND STATISTICAL DEPOT OF THE WAR DEPARTMENT—HIS ILLNESS AND PEACEFUL DEATH.

'The true past departs not, nothing that is worthy in the past departs; no truth or goodness realized by man ever dies or can die; but all is still, and, recognised or not, lives and works through endless changes.'—CARLYLE'S 'Essays.'

IN another chapter it will be seen how Major Jervis corresponded with the Government so early as 1846 on the subject of a national map department under the Foreign Office, then held by Lord Aberdeen. Unforeseen events hastened the realization of this project in a rather modified form. In the spring of 1854, while in Belgium, just at the outbreak of the war, he came across a copy of the very rare map of the Crimea by the Russian general staff, a document which no money could purchase, the names on which he at once transliterated and translated into English from the Russian original. He likewise obtained a copy of the great Austrian military map of Turkey in Europe, as then constituted, with the surrounding countries, as well as Greece, consisting in all of twenty-one large sheets —both kept rigorously back for evident strategical motives, and absolutely unprocurable. The declaration of war against Russia by the allied British, French, and Turkish Govern-

ments, to which the Sardinian Government associated itself subsequently, through the shrewdness of Cavour, had just been made, on the strength of the Russians having crossed the Pruth. Major Jervis immediately took his maps and embarked for London, where the same morning he hastened to request his old friend, Sir Charles Trevelyan, at the Treasury, to obtain an immediate audience for him with the Secretary of State for War, the Duke of Newcastle. Now was the moment, or never, for the British Government to be in possession of the most detailed topographical information, rather than send an army to a *terra incognita*, for such it might truly be styled, were the forthcoming maps to be employed, and the only real data be limited to the Admiralty charts of the coasts. Presenting himself before the Duke of Newcastle, he pressed the Government to authorize him without delay to reproduce these maps in some form, to serve for the use of the commanding officers, who by this time were on the eve of setting out for the East with the first body of troops. It then transpired that the Government had no knowledge whatever of the maps, which did not exist in the great public or military libraries. The Minister before whom Major Jervis spread out the map of the Crimea in Sir Charles Trevelyan's private room at the Treasury Office looked upon it with astonishment. Lord Raglan said that he possessed a copy of it, but that, being in Russian, it was like hieroglyphics; the Emperor Napoleon also had a copy; so secret had the matter been kept. Major Jervis urged the preparation of these maps by the Government; but they would not consent to incur such a considerable expense as their reproduction would involve, the thing being without precedent in the country; and the Budget, marked out so categorically, did not contemplate such an outlay. But he was told that if he would execute the maps at his private cost the Government were willing to purchase of him as many copies as they might feel it desirable to obtain. Major Jervis, more of a simple soldier than a

politician, and intimately assured that his view of the question would soon be found by the Government to be the right one, did not consider this to be an effectual bar, and would not desist for such an obstacle. Never discouraged, as usual, and with hopeful purpose, he bethought himself of taking the matter into his own hands.

Some features of Eastern affairs at the outbreak of the Russian war, alluded to in the following passage of a letter he addressed to Sir Charles Trevelyan on April 8, 1854, seem to be remarkably applicable to the present disturbed condition of various parts of the Turkish dominions, in Armenia, Crete, and elsewhere:

'The war on which this country is now entering is one involving so many complicated and delicate interests, that were the Emperor of Russia ever so peaceably disposed, or all the great Powers of Europe prepared to negotiate and arrange with him for the future government of Turkey, the reconsideration of treaties and the maintenance of the distinct and proper rights of the Greek Christians, the inbred national and religious antipathies of the various sects and tribes (of the Mahometans not the least), scattered from the confines of the Adriatic to the furthest limits of Tartary, would absolutely preclude any permanent and effectual settlement of a struggle which dates its origin from those ancient times when Jengis Khan sent forth his legions to ravage the less warlike kingdoms of Europe, India, and Persia.'

Then, proceeding to describe the traditional feature in Russian politics, too much ignored by the public, he adds:

'The Emperor's craft and peculiar policy form a continuous part of the spirit of Russian aggrandisement from its first admission into the category of European Powers, and he will never abandon an inch of the territory he has appropriated of late years, nor cease one moment in carrying on his subtle devices for any treaty we may make, but will rely on his physical coadjutors—morasses, the elements,

pestilence, famines, the natural impediments of the soil and seasons; but above all by false intelligence and intrigues, sowing dissensions among his opponents, bribes and flatteries.

'If we lose or suffer in this war, it will be by our overweening presumption, inattention to due precautions, sheer ignorance and contempt of an enemy by no means contemptible, and by discouraging or affronting our most necessary allies, the French in particular, and that extraordinary intelligent man their present ruler.'

Meanwhile, in order to ensure greater freedom of action and not to lose a moment, he set to work to get the maps executed, and took an office in the Adelphi Terrace. At length the telegraph announced the arrival of the first detachment of troops at Constantinople. In an inconceivably short space of time he presented copies of the reproduction of the entire map of Turkey and Greece to the Duke of Newcastle, and shortly afterwards a beautifully executed English edition of the map of the Crimea in ten sheets, printed in chromo-lithography. It is interesting to note that this is, we believe, the first instance in which a map was ever printed in England with the sea delineated in *blue*, the hill-work in *brown*, the rest in *black*. That beautiful system, which he introduced from Germany, has long since been successfully adopted in all countries, and ever tends to be the one exclusively emp oyed for all good maps.

A French edition of the map of the Crimea, as also a reduction of the English edition, in two large sheets, followed at an interval of a few weeks. The Duke and the higher authorities were greatly pleased with the maps, of which at first a few copies were purchased at a time for the use of the army. Again and again they were officially applied for by the officers in command, until the Government found that they were quite indispensable for the whole of the forces, so as to be eventually employed on a large scale. The map of the Crimea was in the hands of the commanding officers before they landed there.

Major Jervis entreated the Government not to look upon this work as a private undertaking, and showed the vital necessity of its being made at the public cost. He only reserved the clause that he should be charged with its execution. But in these negotiations he did not succeed at once.

Insisting vigorously on the paramount importance of possessing reliable geographical information and maps, on June 21, 1854, he writes again to Sir Charles Trevelyan:

'We are to bring the war to a complete and successful issue, to tie the hands and determine the exact political limits of this mighty, crafty, and perpetually advancing, intriguing Power, Russia, in a way that may do honour immemorial to the sagacity and political wisdom of His Grace's Ministry. And what might we suppose the conduct of the Great Napoleon in his day, or the present Emperor of Russia in the tender of any such information or service? Count the cost? I am sure they would never have done so. To know all these matters as fully as our enemies, and to be enabled with a high master-hand to lay down a principle, or a frontier line of demarcation, or any specific object of commercial security and freedom, for the benefit and peace of the world, are objects of such great consequence to the British Minister and this country that no expense or pains ought prudently to be spared if the foregoing views be entitled to notice.'

During the course of the year 1854 he unceasingly pressed the subject of the creation of an establishment under the War Ministry somewhat analogous to the Dépôt de la Guerre of France, modified as far as the free institutions of Great Britain would require it, and without touching the Ordnance Survey Department. He had repeated correspondence and interviews with the Duke of Newcastle, as Minister; with Sir Charles Trevelyan, at the Treasury; Captain Washington, the Hydrographer; Sir John Burgoyne, at the Horse Guards; Lord John Russell, Joseph Hume, Austen Layard, Sir Benjamin Hawes, and all the leading men of the day.

He urged it as 'fulfilling the great and only remaining desideratum in this branch of science—an efficient department for the construction of maps, complimentary to the Hydrographic and Ordnance maps, and which in process of time would be eminently useful to the cause of general knowledge and public education.

By very slow degrees—as, indeed, was perfectly in harmony with the exigencies of prudent constitutional administration, though perhaps dangerous in time of war, and supremely trying to Major Jervis, since he had been compelled to embark in this national undertaking the little capital on the interest of which he lived—the Government persuaded themselves that they had to do with a scientific man of the highest order, with a gentleman of honour, as well as an experienced soldier of lofty patriotic feelings. They attentively studied all the memoranda and proposals he presented them in favour of the creation of an official department under the War Department for collecting, preserving, and diffusing the most accurate geographical and topographical information and maps.

Acceding to his proposal that he might personally consign to the French Government a certain number of his maps of the Crimea and Turkey, which the Duke of Newcastle sent as a gift from the British Government, he went to Paris, where he was received with the most distinguished welcome by Marshal Vaillant and Admiral Ducos. The Marshal brought the subject before the Emperor Napoleon III., who at once expressed his desire that Major Jervis should attend at the Palace of Saint-Cloud—since burned down by the Communists during the revolution of 1870. A prolonged and intimate private interview ensued, during which the Emperor, a stanch ally of Great Britain, and generally too harshly judged by his own countrymen, evidenced that marvellous knowledge of men for which the first Napoleon was so celebrated. 'Paris stands in need of proper water-works,' said he, 'but there are certain peculiar

difficulties in the way. To govern the French nation is one thing, and I can do it; but I dare not face the opposition of the innumerable class of water-carriers. I cannot effect that reform.' Hyde Park *orators* do not understand the complicated wheelwork of government machinery. It will be borne in mind that the magnificent artesian wells of Paris yielded a large supply of water, though not sufficient; but to distribute it to every house, and to the several families on every floor of the different houses, unskilled labour was had in requisition, ignorant, turbulent men of the lowest class, who had broad shoulders and powerful muscles, and quite ready at the shortest notice for a revolution, in which they would have nothing to lose, and suddenly to throw them out of work would have been the acme of folly. To give force to the Emperor's sense of the importance of Major Jervis's maps to the French army at that juncture, on the wall of the reception-room of the palace, opposite the portrait of the Empress Eugénie, hung his own mounted copy of the map of the Crimea, on which he followed every movement of the troops, on whom every eye in France was strained.

But the friendly relations between the two Governments was no mere platonic dream. Major Jervis was cordially welcomed and aided in his study of the Dépôt de la Guerre Map department, and that of the Dépôt de la Marine, and his special request to be able to have the gift of all the official surveys and maps and charts prepared at those offices willingly acceded to by the respective Ministers of War and Marine, Marshal Vaillant and Admiral Ducos, so that he returned to London laden with some 1,476 maps constructed from the time of Cassini, under the First Empire, and engravings of historical events of the French army, and hastened to inform the Duke of Newcastle of the prize he held at his disposition, pending his orders.

Not long afterwards the Emperor, desirous of presenting Major Jervis with a perpetual souvenir of his sovereign appreciation of the excellence of his maps and of the

eminent service they had rendered to the French army, sent him, through the French Ambassador in London, a magnificent massive gold snuff-box, with the Imperial initial and crown in brilliants, accompanied by a very flattering letter. It was the highest honour he could confer on him personally, no less than on the British army, as represented by him, and far higher than a mere decoration.

Meanwhile, the maps of the Crimea and Turkey were the official documents employed by the allied British, French, Sardinian, and Turkish armies in the East. The former went through several editions, and all these maps have been out of print for many years, and are become extremely valuable and rare, especially for libraries.

This journey to Paris and the official correspondence, together with Admiral Beaufort's recommendation, had the effect of confirming the Duke of Newcastle and the Treasury in their good opinion of all the long-continued negotiations recommending the expenditure of public money in furtherance of geography. On Lord Panmure's succeeding the Duke of Newcastle as Minister, Major Jervis had frequent recourse to him on the same engrossing subject, and an active correspondence. The Government had already acquired the most flattering confidence in the sound judgment and long practical experience of the scientific engineer officer, with whom they had now a better acquaintance.

Thomas Best Jervis had been no dreamer; his exertions for the good of the country for a long series of years were finally to be crowned with success. Lord Panmure sent him an official letter from the War Department, dated February 2, 1855, communicating to him the sanction of the Treasury to the creation of a statistical and topographical office in connection with the War Department, at the same time offering Major Jervis its superintendence, in recognition of his varied attainments and valuable geographical qualifications. This was a most satisfactory outcome of all his unremitting labours in a cause which his far-sighted mind had showed him to be of the utmost

importance to the nation. An immense relief was thus afforded to the mental strain he had undergone during the past anxious year, and he hastened to accept the flattering offer of Her Majesty's Government. Without delay he took possession of the offices assigned to him near Whitehall, and transferred his people thither.

The premises he now temporarily occupied—the only available ones—were on the ground-floor, without any drainage, in the midst of one of the most populous parts of the Metropolis, and were afterwards pulled down, while the then slimy, pestilential banks of the Thames behind the offices were transformed into the magnificent Embankment. Predisposed by overwork, worry, and uncertainty, his health was seriously impaired by the deficient sanitary arrangements, and he soon fell a prey to a grievous internal disease, from which he never afterwards recovered. Still, with true soldierly courage, he proceeded to battle with this terrible enemy, and rapidly organized the internal arrangements of the department, directing personally all the technical details with beautiful precision, in defiance of medical orders, and labouring as he was under the greatest physical suffering.

Later on the Government were enabled to assign him a whole house, No. 4, New Street, Spring Gardens, to which to transfer his department, thus showing their appreciation of the results already obtained, and the patriotic zeal of its director, who was meanwhile promoted to the rank of Lieutenant-Colonel by Her Majesty Queen Victoria.

The amount of work executed was astonishing, and little remained to do but to introduce modifications and improvements into a hastily established and absolutely novel department of the public service. It would be entering into official matters beyond the business of the writer to speak of what was done at the Topographical and Statistical Depot of the War Department.

For two years all was carried on with perfect regularity, in spite of the unceasing inroads of pertinacious inflamma-

tion of the bowels, which prostrated his bodily frame, and agitated the entire nervous system.

Having obtained a short leave of absence, he went, accompanied by Mrs. Jervis, who lovingly watched over him, to Montreux, on the enchanting shores of Lake Leman, beyond which is seen the glorious panorama of the Savoy Alps. An eminent physician, Dr. Recordon, of Lausanne, under whose able treatment he placed himself, finally pronounced the crisis to be so far passed that he was out of immediate danger, but imperatively proscribed all thought of work for a long time, as his able medical adviser in London, Mr. Seymore Haden, had previously done. But in vain. He only listened with one ear, starting at once to see General Dufour, the eminent Director of the Swiss Federal Topographical Bureau, at Geneva, and Major Giustiniani, the Director of the Sardinian Military Topographical Office, at Turin, and was enabled to procure from those departments a valuable collection of all their topographical maps. On his return to London, the disease made such rapid inroads into his enfeebled body that he was reduced to a skeleton, being unable to digest any kind of food whatever. Riding to his office, and carried up and down stairs in an armchair, he said there was so much pressing work to be superintended for the army and the country he could not remain idle. He would die in harness. No entreaties of his family had any weight with him. 'My duty to the Government,' he replied to every objection, 'must in conscience be performed; I will go down colours flying.'

Compelled at length to give in, since he was too exhausted to leave his study, in a few weeks' time the scientific Christian soldier, the philanthropic educationalist, the stanch friend of India and Indian missions, saw his end approaching, and on April 3, 1857, he peacefully passed away to a wider and better field of duty,

> 'Where all his powers shall find employ
> In that eternal world of joy,'

surrounded by his family, to whom his last words, in a moment's lucid interval of his long agony, were, 'God bless you all,' pronounced with a firm voice, and then he breathed his last. Every one of the forty and more persons under his orders at the Topographical and Statistical Depot came to take a last respectful and affectionate farewell as he lay in his coffin, and see the calm, beautiful expression of his countenance. More than one shed tears of sorrow; none had to complain of harshness or injustice.

Happy the Christian! His last journey is the shortest. Ere he has drawn his last deep sigh on earth, he is already liberated from the trammels of the body; the vail has been rent; he is in the presence of his Saviour—which is heaven! Had the sorrowing family been able to utter the word INDIA to its dying head, while he yet had the power to articulate, he would certainly have replied, 'India for Christ; Thy kingdom come; Thy will be done on earth, as it is in heaven.'

At his request he was interred beside his father-in-law, Dr. William Paget, in the secluded ancient churchyard of St. John's in the Wilderness, near Exmouth (Devon), an ideal abode of peace, and close to the celebrated old yew-tree, which dates back to the period of English history when bows and arrows were made of such material for the soldiery.

'The soldier's grave—disturb it not,
But let one grateful tear
Drop gently o'er the sacred urn
Of him who slumbers here.
Though on no sculptured monument
Is carved his well-earned fame,
And only on a simple stone
We read his age and name.'—FANNY CROSBY.*

Thomas Best Jervis was only sixty years of age, though the inexorable influences of the climate of India, exposed as he had always been to the sun's rays, a life of incessant toil and anxiety, together with the frequent inroads of neuralgia

* From 'Bells at Evening,' by permission of Messrs. Morgan and Scott, publishers.

and liver complaint, had marked their indelible stamp on his broken-down constitution, imparting to him the appearance of a man of seventy. Shortly afterwards the Rev. John Wilkins, minister of St. John's Wood Congregational Chapel, London, delivered a touching funeral sermon on his valued friend, taking as his text the words: 'He being dead, yet speaketh.' That such may still be so in a very extensive manner is precisely the object of this imperfect biographical sketch.



CHURCH OF ST. JOHN'S IN THE WILDERNESS, EXMOUTH, DEVON, WITH TOMB OF THOMAS BEST JERVIS, AND OLD YEW-TREE.

Mrs. Jervis survived as a widow nearly thirty years, passing the latter part of her life in Italy, and for family reasons of health resided for some years at Posillipo. She was a true travelled lady, of the old aristocratic type, devoid of all pretension or pride. She was endowed with a most refined, well-cultivated mind. Of a very retiring disposition, she did not go much into society, and that only of personal

friends. Her great preoccupation was to devote herself to her children with most unselfish love. She was born an artist; indeed, a great Belgian painter once said to her: 'Madame, it is a vast pity that you are not obliged to gain your livelihood by painting.' Her inseparable companion was her sketch-book, by which her wanderings can be followed, as in a journal, by the beautiful little water-colour drawings of the most interesting localities. Her drawings of the wild flora of Western India are made with the greatest precision. When upwards of eighty years of age she made some sketches at Sorrento, which showed how unwilling she was to pass by any object which struck her as worthy of being remembered. Her literary reading was extensive, and her memory well-stored with choice passages from the best poets.

While living in Naples, some of the benevolent British residents, being much concerned to see the pitiable and friendless condition of the English-speaking sailors frequenting the port, and who naturally became the prey of the vilest land-sharks, and victims of the sailor's great enemy—strong drink—instituted a floating Bethel for their welfare. Here, under the care of a missionary, and with the aid of many ladies and gentlemen, these men found a warm welcome and good literature. Mrs. Jervis frequently attended the religious services and social evening meetings for the sailors established there, encouraging them by her presence. Officers and men of the Royal Navy and merchant service were often invited to her house. No wonder, then, that at length she acquired the name of 'the Mother of the Bethel.'

A few days after she had completed her eighty-fifth year—on February 28, 1886—she passed away, and was interred in the British cemetery at Naples. She was a sincere Christian. Her favourite hymn was:

> 'Peace, perfect peace, in this dark world of sin?
> The blood of Jesus whispers peace within.
> Peace, perfect peace, death shadowing us and ours?
> Jesus has vanquished death and all its powers.'

CHAPTER XIV.

ORIGIN AND ESTABLISHMENT OF THE TOPOGRAPHICAL AND STATISTICAL DEPOT OF THE WAR DEPARTMENT (NOW THE INTELLIGENCE DIVISION).

'The idea once conceived and verified, that great and noble ends are to be achieved, by which the condition of the whole human species shall be permanently bettered, by bringing into exercise a sufficient quantity of sober thoughts, and by a proper adaptation of means, is of itself sufficient to set us earnestly on reflecting what ends are truly great and noble, either in themselves, or as conducive to others of a still loftier character; because we are not now, as heretofore, hopeless of attaining them.'—SIR JOHN HERSCHEL, 'Influence of Science.'

FROM Lieutenant-Colonel Jervis's extensive correspondence with eminent scientific men, high Government officials, and Ministers of the Crown for a long series of years, we learn how his ardent desire to see geography rendered subservient to the highest national purposes was successively matured and actuated.

Perhaps it would not be too much to look back to the statistical and topographical surveys he made of the Konkan in the twenties, as a young officer, for the first conviction he formed of the true value of geographical knowledge to a Government. His provisional appointment to the post of Surveyor-General of India opened his mind to the comprehensive nature of the subject, and he then familiarized himself with the nature and working of the survey offices of different countries. When he privately undertook the

task of illustrating the geography and statistics of Asia, it was only to find the field infinitely too large for a private individual; but this added to his practical experience, and, after taking breath, he was fired with fresh courage, and saw the way clearer. Thus, in 1846 he wrote to Lord Aberdeen, Secretary of State for Foreign Affairs, urging him to create a map depot in connection with the Foreign Office. This was a definite project of a national department, but it would appear that this would have assumed more of the form of a public record map-office than one including the construction of maps, seeing that the necessary technical elements existing in the Engineer Corps were altogether wanting there. Probably the reason of the choice was a delicacy in proposing any rival or competitive office which might not be popular in the army. It will be interesting to see what he wrote to the Government, nor must we omit to allude to his private library of the choicest and rarest geographical works which he studied, and his splendid collection of the finest maps and topographical surveys; so he was up to date.

The following passage is an extract from a note he addressed to Lord Aberdeen:

'LONDON,
'*May* 3, 1846.

'Great Britain is the only country of note which has no *geographer* attached to the Government, and no national depot of geographical maps and plans. The Ordnance Survey is exclusively directed to the British territories, the Hydrographic Office to nautical charts. This desideratum has for many years engaged my constant and particular attention, and as such an object, consistently with prudential motives or occasional secrecy, could only be effectually carried out under the Foreign Office, I venture to lay before your lordship the enclosed memorandum, which may claim your attention with reference to the Oregon question, Lord [redacted]urton's late mission, and the acknowledged want of

geographical information in many well-known and recent cases—Borneo and the Eastern Islands; the Russian proceedings in Persia and Syria; the affairs in China; in respect also of South America. In the necessity that has hitherto existed of dependence on chance or private aid, any great degree of secrecy or accuracy is not to be expected.

'The want of such a depot has long been felt, and frequently adverted to in Parliament and by the public. It can now be supplied, and would form, in conjunction with the departments above named, a complete system of record.'

Joseph Hume acknowledged with thanks Major Jervis's plan of a depot for maps, communicated to him on August 3, 1846, assuring him that it would receive his best attention. Eight years later he redeemed his pledge in the most effectual manner; but we do not know what occurred during the interval.

It has been mentioned in Chapter XIII. how, at the outbreak of the Russian war in 1854, Major Jervis timely presented to the notice of His Grace the Duke of Newcastle a very rare map of the Crimea, as also the large topographical map of the Turkish Empire as it then was, with Greece, prepared by the Austrian general staff—both absolutely unprocurable; and how, since the Government would not agree to assume the expense of doing so, the maps were both executed by Major Jervis at his private cost.

In a memorandum with reference to the maps which Major Jervis submitted to His Grace the Duke of Newcastle, Secretary of State for War, and Sir Charles Trevelyan, of the Treasury, he writes on March 14, 1854:

'In the present unexampled state of war and political change throughout the world, in parts which are still very imperfectly known, the desired preparedness of this country for every event may render any contribution to our geographical and statistical knowledge most acceptable to your Grace and the Government, and extenuate the [redacted]

pain

ness of the observations which I venture to submit for consideration.

'In connection with my official duties in India, I directed the particular attention of the Directors of the East India Company, previous to the Afghan war, to the great importance of exploring all those countries stretching between the confines of our British Empire and the Caspian Sea, in order to the extension of commerce, civilization, and a better understanding with the various hordes and restless petty princes, who might hereafter, as their interest or passions disposed them, become our most obnoxious enemies and an occasion of just alarm. This representation, made in a time of profound peace and hopeful advancement to order in Cabul, met with the warmest approval and concurrence from Lord Broughton (then Sir John Cam Hobhouse, President of the Board of Control), and was further seconded by the able and joint appeal of thirty-eight of the most eminent scientific individuals throughout the British Empire, who foresaw in all such researches the surest way paved to the security of our Indian Empire, the promotion of our legitimate mission—commerce, civilization, and the future introduction of Christianity. This appeal, despite of the efforts and remonstrances of the President of the India Board, met with no favourable response from the Indian Directors, and the subsequent disasters in Afghanistan left the Russians in the sole and undisputed office of these important investigations, which they have unremittingly pursued from that time to the present.

'In pursuance of my design I had collected and have amassed from time to time a great variety of documents on all questions connected with the geography and statistics of these regions, and various parts of Asia, amongst which are some of rare occurrence. I had it for many years in contemplation to discuss and publish these papers in a connected shape, and should have no reason to regret

having deferred that object to the present moment if time and health should be permitted me *even to initiate it*, and put others in the way of fulfilling a task of so great interest to the cause of science and humanity, by bringing the European world into more intimate relation and acquaintance with the multitude of tribes scattered throughout Central Asia. We are, in fact, every day more thoroughly informed and better prepared to appreciate the narrations of travellers than formerly, and I have made it a special object of study, moreover, to lay down such observations with greater mathematical exactitude. For this purpose, after years of thought and labour, I have devised a mode of projecting maps which I confidently hope, and have just reason to believe, will supersede every other now in use, as it will also greatly simplify the delineation of larger or smaller portions of the earth, and be readily apprehended even by persons indifferently skilled in geometry.

'But my next and greater object in all this pursuit was to recommend the study of geographical science to the many who can neither purchase, and frequently could not understand or value, the costly and pretentious works which adorn the shelves of princes and nobles, and some few public offices and libraries. To make *good* maps on a sufficiently large scale to be useful, intelligible, instructive, and within the reach of the many thousands who would be thus taught to look out of their immediate native land upon that of others, which have a claim to our sympathies and intercourse, appeared to me to be of such permanent importance that I undertook in my own humble way, and in anticipation of public support, the establishment of a depot of maps and plans, and the publication of instructive illustrative memoirs. The work, however, was too large for my private resources in the face of opposition from various quarters, and I had recourse in hope to the Foreign Minister, before whom I concisely laid the project of a national depot for maps, plans, etc., suited to the general purposes of a great

commercial people, and professedly the most enlightened nation of the world, which—to our shame be it spoken —is almost the only one which has no such establishment.

'This suggestion was no suddenly or rashly concocted scheme, nor made with any speculative, mercenary, or selfish views, but, as my dearest and most confidential friends would attest, proffered in all the honesty, disinterestedness, and loyalty of mature conviction. Nor was it made either in ignorance of facts or considerations affecting the necessities of the country and the progressive state of the times in which we live.

'My professional duties as an Engineer officer, my tastes and education from my earliest youth, my subsequent high official position, and my daily large correspondence with eminent missionaries, and persons distinguished for their attainments and experience in life, confirmed me in these views, opened my eyes to new ideas of their utility and urgency, and encouraged me under many difficulties, jealousies, and some unworthy obloquy to proceed with my design in subsequent years.

'I had made myself thoroughly master of the native organization, and in no inconsiderable degree with the actual contents, of the various geographical and topographical bureaux, the resources and machinery of the Dépôts de la Guerre in Paris, Vienna, Berlin, and St. Petersburg, the establishments at Washington, Brussels, Madrid, and Munich, those of the Ordnance Surveys of Ireland and Great Britain, and the Hydrographical Office at the Admiralty, as well as everything originated by the East India Company, whether abroad or at home.

'From this knowledge, such as it was, I came to the conclusion that, excepting in regard to the Ordnance Surveys and the Admiralty charts of later years, there is no civilized country so badly provided, so backward, and so ill informed as our own in all that relates to foreign geographical maps,

charts, and statistical information which we ought by rights to possess, when we might have been expected from the habitual tastes of the people for adventure, commerce, and exploration to have accumulated the largest and most valuable stores of such information, available to all classes of the community in any possible circumstances of need.

'This may seem a rather sweeping conclusion, in the teeth of those frequent boasts we read of, and the belief to the contrary amongst persons who have not been much out of England, but it needs little inquiry to satisfy any reasonable person of its strict truth. The Spanish charts are justly eulogized as among the most valuable and beautiful in early times; the Russian and French are surpassingly beautiful; and except of late years, under its able head, the Hydrographical Office had nothing to show to be compared to those of like powerful European maritime nations. General Colby boldly set our old prejudices and indifference at defiance, and under the patronage and ministry of the great Duke of Wellington taught the country to appreciate the value of maps on a large scale. To this same enlightened and noble personage we were indebted, when he was only Colonel Arthur Wellesley, for the great Trigonometrical Survey of India, begun by one of the officers of his own corps, Lieutenant Lambton, 33rd Regiment [afterwards Colonel], on His Grace's particular suggestion.

'In respect of education, we are still in a far worse case than any other European State in regard of ordinary maps, and we purchase all our imperfect geographical information at about six times the cost of that of other countries, of course putting the general use of such information entirely beyond the reach of the many. The enlightened mind of the Hydrographer, Sir Francis Beaufort, the former Secretary of the Royal Geographical Society, Captain Washington, R.N., and the successive presidents of that society —Admiral Smyth, R. W. Hamilton, Esq., and G. B.

Greenough, Esq.—have always persevered most strenuously to effect the same object of cheapness, improvement, and the utmost accessibility of all such knowledge to the public. But the undercurrent is still sufficiently strong to resist advance; and although the remarkably low price of the Admiralty charts has swept away the rubbish of former competitors in nautical maps, we are still inundated with the most incorrect and coarse productions, professing to represent the latest discoveries in geography.

'It is high time to wipe away this sad reproach. The hour of peace has passed away. War and its infinite occasions of necessity, public economy, the reputation of the Minister for judgment, foresight, and thorough conversance with his affairs, and the future state of our situation and authority amidst other nations, demand all the helps which can be found existing, and daily increasing information. Public education calls loudly for such powerful intervention of Government; the country at large eagerly hunts up and puts together every sort of information that can elucidate the present remarkable movements of the armies and the fleets, and tell them where a husband, a brother, or a son is now going; with what enemies to contend, how to be supplied with the accessories of life, and in what climate and seas they are to be engaged. The public, the legislature, the very Ministers themselves, and the Sovereign, above all, desire to be perfectly informed with respect to the minutest details of the statistics and geography of the seat of war, with everything, in short, which can lessen the public expenditure, diminish anxiety, bring about the earliest solution of the miseries and calamities of war, and secure our brave troops and sailors from famine, disease, and shipwreck.'

Three eminent public men heartily took up the proposal for establishing a map office in connection with the War Department: first and foremost Admiral Sir Francis Beau-

fort, the Hydrographer of the Admiralty; Lord Broughton in the House of Lords; and Mr. Joseph Hume in the House of Commons. To these might be added Admiral Smyth and other competent specialists.

In a letter to Sir Charles Trevelyan, on July 15, 1854, Lieutenant-Colonel Jervis writes about his recent interview with Lord Broughton as follows:

'Lord Broughton took me by both hands, and said, "Oh, my dear Jervis, I enter most warmly into your views as regards this object" [map-making subservient to general and public education] "in connection with geography. I will do all I can." You should know that he is an old friend of our family, and has been so to my late brother and me. . . . We have been in correspondence with Lord Broughton for twenty-five or thirty years on the means of applying lithography and other arts to native education in India, and on other points connected with this subject generally.'

A letter addressed to His Grace the Duke of Newcastle on July 17, 1854, contains this passage:

'The fact is palpable and notorious, that this great, intelligent, powerful commercial country, which may be said to impose laws on all the civilized world, is entirely dependent for good maps on the Continent for German, French, and other maps. What else we have are, in truth, but school atlases. We have an admirable hydrographical office for nautical surveys and charts, and another for the Tithe Commissioners' surveys; but for our colonial, commercial, or war purposes we have no resource but foreign information, and more than this, none embracing all that these could supply for the objects of national education.'

The object Major Jervis had in view is clearly stated in his letter of August 5, 1854, to his friend Admiral Beaufort:

'You are perfectly conversant with these maps, and can speak authoritatively and without hesitation as to their great importance, accuracy, and value, in the absence of like geographical surveys of our own. I claim no other merits in regard of the maps before you than the promptitude, fidelity, and honest zeal with which I have prepared and furnished His Grace and the army with this most needful appliance of war—good maps. As respects any preferential favour extended by His Grace to such maps, it has never entered my thoughts, *much less as engaging in it as a business, which is perfectly repugnant and foreign to my purposes and profession—nor, indeed, anything like competition with the trade.* I do not consider that the preparation of such maps for the Minister of War and the army would interfere in the slightest degree with the undertakings of the industrious map-makers and map-sellers of this country any more than the Ordnance and Admiralty maps, but contribute rather, if anything, as they also do, to raise the standard, improve the character, and multiply such maps, and reduce their cost. . . .

'You have yourself most materially raised the standard of our own national maps, and given a great impulse to the national taste for exact information. . . . Some years ago, by your friendly introduction and that of Lord Grenville, then our Ambassador at Paris, and Sir John Herschel, I was freely admitted to inspect the Dépôt de la Guerre in France, and became acquainted with its chief officers, and the principal scientific establishments and contents of the public archives of France and Italy. I then perceived, and fully appreciated, their immense value in a case of war, and, indeed, ministerially at all times.'

In reply to which Admiral Beaufort writes:

'ADMIRALTY,
'*August* 9, 1854.

'MY DEAR JERVIS,

'I have had great pleasure in looking at your map of the Crimea, as in beauty of manipulation it leaves nothing

to be desired, and its accuracy (as it appears to be literally copied from the Russian map) cannot be questioned, for in every instance we had occasion to test the precision of the recent Russian charts they appear to be perfect. For instance, the shores and soundings in the Baltic, as well as the positions of the innumerable rocky headlands that pervade that sea, have, whenever examined by our skilful naval surveyors now with Sir Charles Napier, proved to be quite correct. While the Russians were formerly in the possession of the Principalities,* their staff was not allowed to remain idle, but was employed in making excellent maps of those countries, in every way superior to those published by the Germans and French. In like manner it may be safely concluded that the great ridge of the Kaukasus and its adjacent plains have been equally well accomplished during the many years they have been masters there, and, therefore, so wretched are our maps of those districts, that no greater boon could be conferred to geography, in either a scientific or military point of view, than giving the world a correct copy of their map—if you have it.'

Being charged at his particular request to deliver personally to the French Government a certain number of copies of his maps of the Crimea and Turkey, the gift of the British Government, Marshal Vaillant was remarkably struck by their excellence, and received him at his residence with the utmost cordiality, and so did Admiral Ducos. But neither ambition nor interest had dictated this journey; it was a far higher motive. He was enabled to obtain permission to study the organization of the two map departments, the Dépôts de la Guerre and de la Marine, for these great men felt a noble pride in furthering the project of introducing like scientific methods into the sister country. The two Ministers having placed a complete collection of the publications of their respective map offices in Major

* The present kingdom of Rumania.

Jervis's hands, at his particular request for the use of the British Government, he announced the splendid gift to the Duke, 'trusting that they might become in the hands of the Minister the nucleus of one of the most important and useful collections in the country.' He adds: 'The honour of instituting a like national depot in this country is now freely in your Grace's power. A beginning, in truth, has been made, and the maps in question presented to your Grace, and for the present war purposes these would be the precursors of greater and better results, which would be hereafter referred to by the nation with pride and gratitude to this considerate act of your Grace's administration.'

To Colonel Mundy he writes under date of October 26, 1854:

'9, ADELPHI TERRACE.

'. . . Through Lord Cowley's introduction to their Excellencies Marshal Vaillant and Admiral Ducos, and the very distinguished courtesy which they and the directors of the Dépôts de la Guerre and de la Marine, Colonel Blondel and Admiral Mathieu, personally extended to me as a professional British officer in search of information, I was enabled most satisfactorily to obtain a complete insight into, and particular account of, the organization and economy of the Dépôt de la Guerre. . . . I may briefly say that the Dépôt de la Guerre, which constitutes the 6th Division of the Ministry of War, was founded in 1688 by M. de Louvois in the reign of Louis XIV., and is the common model of all similar establishments, but of comparatively recent date, in Russia, Austria, and other countries. It is strictly and primarily the great national depository for the preservation and preparation of all plans, maps, memoirs, and documents relating to war, but its more essential and recommendatory feature consists in the valuable geographical and statistical archives, which throughout Continental Europe have been employed with the greatest liberality and benefit for the furtherance of the general

necessities of public education and internal economy, and their application to every circumstance which may render such information most useful in peace or war.'

'*To the Right Hon. Lord Panmure.*

1854.

'My Lord,

'On March 14 last, when I was honoured with a special private conference with His Grace the Duke of Newcastle and Lord Raglan at the Treasury, for the consideration of my proffered services in regard of the preparation of military maps, statistics, and other information connected with war, from the valuable Russian and other scarce materials in my possession, which I then laid before them, I most earnestly represented to them, as a professional officer of Engineers, the imperative duty and permanent concern of promptitude and preparedness in obtaining every possible information of the various countries dependent on Russia, Turkey, Persia, and Central Asia, their population, resources, and physical statistics, in which region we should have to contend for many years to come with a very powerful, intelligent, pertinacious, and subtle enemy. . . .

'I need hardly advert to the memorable détour by Mackenzie's farm to Balaklava, after the battle of the Alma, effected by the information I had furnished to Lord Raglan, and the destruction of the Russian baggage on the way to Simpheropol in confirmation. The fact is recorded by Lord Raglan in his public despatches, and has become a matter of undying history.

'Before all other considerations, I submitted to His Grace personally, and in a particular written note, the urgency of instituting without delay a depot under the War Department, similar in organization to the Dépôts de la Guerre of France, Russia, Austria, and other States, with which I had made myself thoroughly acquainted in 1839, and have subsequently more particularly examined this year through the influential friendly offices of Lord Cowley, Lord

Hardinge, and Mr. Joseph Hume, the latter of whom stated to me confidentially that the realization of this measure would be the last and greatest wish of his public career, and that such establishment was the first effectual step to the reform of our military organization.

'My representations were conclusively admitted by His Grace and Lord Raglan, and highly appreciated by the Emperor Napoleon, when adverted to by Lord de Ros at the subsequent conference at Paris.

'I have, etc.,

'T. B. JERVIS,

'Lieut.-Colonel, Engineers.'

The imperfectly informed public, not always competent judges of State business, find any easy way to blame Ministers of the Crown through the safety-valve of criticism. To listen to them, they have entrusted to the heads of Government Aladdin's lamp, and these have nothing to do but to wish a thing in order to be able to accomplish it. The Duke of Newcastle could scarcely be expected to have entered at once into all Major Jervis's considerations, or his lofty conceptions of geographical science, his tenure of office having been short. Lord Panmure, succeeding in the Ministry, had to think of the opinion of Parliament, since the project would require the prosaic vote of funds given by the majority; and then the Opposition press might raise a storm against 'the wild scheme, and lavish waste of money on a chimæra'—he might be censured. But the tide had now set in full. All the powerful considerations and the warm approval of Major Jervis's proposal to Government, so conclusively offered by the distinguished specialists, some of whom have been already mentioned, determined Lord Panmure to obtain from legislature the necessary grant for the formation of a department officially known under the name of the Topographical and Statistical Depot of the War Department, and appointed Major Jervis director,

with the delicate duty of organizing and working it on the lines he had himself recommended.

The following letter was written by the Government, announcing such step:

'WAR DEPARTMENT,
'*February* 2, 1855.

'SIR,

'With reference to your letters of December 1 and January 9, I am directed by Lord Panmure to acquaint you that my Lords of the Treasury have given their sanction to the creation of a Statistical and Topographical Office in connection with the War Department, and the pay of a salary to the officer charged with its superintendence. Lord Panmure entirely concurs with the opinion recorded by His Grace the Duke of Newcastle, that your varied attainments, and the great attention you have paid to geographical science during many years, are valuable qualifications for the office in question, and I am directed to propose to you its acceptance.

'In the event of this offer meeting your views, you will be charged with further arrangements for consolidating, as far as possible, in this department the various scattered collections of military plans, maps, books, and documents that other departments of the public service hold in charge, so far as such consolidation is desirable for convenience of access and arrangement.

'It is also Lord Panmure's intention to unite in the same establishment, as soon as it can be conveniently effected, the Topographical Department now under the Horse Guards. Temporary arrangements are now completed for the reception of the collection about to be formed. You are requested to transfer to it at your earliest convenience the maps and plans which Marshal Vaillant and Admiral Ducos charged you to present to the Duke of Newcastle.

'I am, sir,
'Your obedient servant,
'J. PEEL.

'MAJOR T. B. JERVIS.'

From Major Jervis to Admiral Sir Francis Beaufort, K.C.B.

'9, ADELPHI TERRACE,
'LONDON,
'*March* 9, 1855.

'DEAR SIR FRANCIS,

'I revert to my first introduction to you, now some nineteen years ago, by our common friend, the late Dr. Otter, Bishop of Chichester, and reflect with grateful memory on the honest, unchanging generosity with which you have been pleased to honour me. I hope I shall not do any discredit to one of the last acts of your valuable public life in recommending me for the very important post just conferred on me by Her Majesty's Government, as I am assured that it is to your testimony I am chiefly indebted for the decision of the Duke of Newcastle and Lord Panmure.

'I can very inadequately say how deeply I feel and value this expression of your opinion of my capacity and purpose, if I am spared, to carry onward, in conjunction with Captain Washington, those designs of improvement and usefulness in the cause of geographical science to which your own example has given so desirable an impulse. Although my heart would dictate a larger acknowledgment of the sense I entertain of your distinguished kindness on this and a former special occasion, when elected to succeed to the Surveyor-Generalship of India, you will consider it more effectively shown by my patiently and diligently pursuing my duties, and by my constantly bearing in mind, in the discharge of this responsible office, the spirit and desire of that most honoured master-mind, and valued friend, to whom I owe my advancement. Yet I may at least express further, in the simplicity of the same feelings, the recollection which I shall ever retain of the regard the nearest members of your family have likewise extended to myself, and to those dear to me, which they alike appreciate and will ever cherish. To have failed to unburthen my mind would have been against my nature, and would have been a deficiency

of duty and gratitude for which we should have unitedly reproached ourselves, and I am sure, therefore, that it will be received with every allowance.'

In a memorandum addressed to the War Department in June, 1855, in reply to the inquiry made of him, we find Lieutenant-Colonel Jervis furnish a comprehensive statement of the 'ulterior purposes of that particular section of the War Department recently called into existence by Her Majesty's Government, with the very responsible direction, and, in truth, the very formation of, which in all its details, *de ovo*, I have been entrusted by his lordship, Lord Panmure.

'This, then, if I have rightly apprehended your communication of February 2 last, is the spirit and letter of the resolution of Government—to institute a Topographical and Statistical Office in immediate connection with the War Department, in its entire nature, efficiency, and extent conformable to what in all other civilized States has long subsisted and been familiarly known under the designation of the *Dépôt de la Guerre*, or in Russia, Naples, and the United States perhaps more significantly as the *Topographical and Statistical Depot*. It is, in fact, relatively to the Minister of War *specially*, and to the Government and country generally, in respect of all lands and foreign countries, to their geography, statistics, and military topography, precisely what the Hydrographical Office in this country, or the *Dépôt de la Marine* in Continental Europe, is to the Admiralty and mercantile navy.

'In the one case the Hydrographical Office, serving as the most complete treasury and authoritative source of all surveys, charts, and information connected with the seas, coasts, harbours, tides, currents, lighthouses, descriptive and other physical inquiries—the accredited public department, in fine, which only is competent and expected to originate and conduct these investigations to a beneficial

conclusion—and to suggest to the Minister the measures and necessity for their execution and publication, and that the information thus acquired be thereupon set forth to the world in the most accurate, convenient, and inexpensive form.

'In the other parallel case, the newly-established depot, fulfilling in a corresponding manner the same purposes in regard of the topography and statistics of all foreign States, as also more especially of the colonies and dependencies of the British Crown, is, *de facto*, the great national depository of the State archives, and the proper fountain-head of all undertakings for those particular objects, whether of a purely military or other nature, or is intended to be, the director of such office being, as the Hydrographer, in the confidence of, and in direct communication with, the Minister in all questions relating to his proper duties. In either office the primary duty being the secret, confidential, or public business of Government, and, subordinate to this, the construction, compilation, and publication of such original plans or surveys, charts, or memoirs by sea or land, respectively, as may be required for the service of Government. The Topographical and Statistical Depot further being specially charged with the construction and publication of every kind of useful geographical plans, maps, atlases, and statistical tables, memoirs, etc., for the general objects of public education, the advancement of scientific inquiry, or the political and commercial necessities of the country, the director taking the initiative in the reduction of all such maps *to one simple systematic orthography, uniform scheme of projection and scale.* Not that this procedure should militate with, or derogate in any way from, the very laudable and needful enterprises of private individuals, but rather concur with them, stimulate and promote such objects by a generous emulation, liberal publicity, and free accessibility to such part of its collections not precluded for any prudential reasons from general communication.

'Second, moreover, to this extensive paramount purpose of the Topographical and Statistical Depot is that of constantly affording the facilities of gratuitous practical training for special staff qualifications to a limited number of officers and non-commissioned officers of every branch of the army, and the sons of officers who have fallen in the service of their country, or others preparing for the army, who may be desirous of this opportunity of perfecting themselves practically in every department of art or science employed at the depot, whether military drawing, lithography, photography, modelling, geodesy, reconnoitring, etc., the preparation of military statistics and memoirs, or, generally, to make themselves well acquainted from the archives and library of the depot with the military constitution, geography, and history of foreign States. Such instruction would involve no further charge to the State than that of proper accommodation, books, drawing materials, surveying instruments, the occasional service of labourers, or expense of transport, precisely as limited at the Dépôt de la Guerre in France. There is avowedly no instruction like the practical training of public life; no influence so well calculated to affect any permanent results on the masses, as that presented by the exhibition of skill, industry, order, and obedience.

'Such, then, should this be, under the eye of the Minister of War himself; the most valuable training which would be freely open to every officer aspiring at those high professional qualifications so essential to his advancement to any command or service of trust. It might further be extended with great advantage to some few intelligent non-commissioned officers, with the advice of the Commander-in-Chief.

'Third, and lastly, the carrying on of geographical and statistical researches in other countries, more particularly in time of war, by means of a small number of highly-efficient topographers attached to the depot, such body being formed into small brigades, as is also actually the case in France,

and there so designated, each consisting of six persons, it may often and more frequently be civilians or retired officers engaged for any particular service temporarily, four of whom to be expert draughtsmen and surveyors, one a proficient artist, able to sketch very correctly and take views with great rapidity and skill, the sixth a qualified geologist and statist, if practicable some gentleman of the medical profession, who might volunteer for such exploratory service. The whole six persons to be placed under the separate and personal conduct of a very intelligent officer, conversant with astronomical observations, geodesy, and the physical sciences, for the purposes of determining the latitudes, longitudes, barometrical heights, etc., having also a taste and aptitude for the languages of the country to which he may be deputed, and for extensive explorations. Officers of great personal daring, ingenuity, and temper, with such general acquirements, may doubtless be readily found, and, indeed, such have offered for this enterprise. No one without sufficient proof of these qualifications should on any account or recommendation be eligible for such service.

'Not being a regular permanent service, these officers might be indifferently selected in the active service, or preferably from among the officers of the Indian army, or retired officers of the army or navy. The principal object on all occasions being the foregoing peculiar qualifications and disposition for such duty, their appointment would, as a matter of course, in all cases emanate with and be subject to Her Majesty's gracious pleasure, with the advice of the Commander-in-Chief or Minister of War. The rank of the officers in charge of the brigades to be such as they may actually hold, or be advanced to by Her Majesty with the advice of the Commander-in-Chief, and their pay or remuneration equivalent to that of a Captain of Engineers on special foreign service. The subordinates (invariably limited to six in number) constituting each brigade being indifferently civilians, retired officers, or others who may

volunteer for the duty, or even, if such can be found, very intelligent, superior non-commissioned officers. All to be ranked for the time being, and with Her Majesty's approval, as Lieutenants, to ensure them, whilst so employed, the courtesy, aid, and companionship of other gentlemen, they engaging and strictly conforming in regard of such advantages (*pro tempore*) to implicit military obedience to their immediate superior, and the observance of the orders they may receive from the higher authorities. Besides their pay, an allowance to be made for a horse and labourer, or assistant, to carry their instruments, and in all cases a free passage to and from their destination; also to be provided with suitable tents and instruments, as may be requisite. The above particulars are in all points exactly as now prevailing in Russia and France. The number of the topographers in the former country in 1837 was 120, exclusive of the officers, and the number of the brigades in France averaging from twenty to thirty for the service of the Extérieur, and these in both cases constantly kept up. In all essentials the system of the United States, established under the presidency of Mr. John Quincy Adams, is not materially different from the foregoing, except that there the director is a civilian. The Government of India have likewise adopted it in principle in the expeditions of Sir Alexander Burnes and Captain Abbott to Central Asia, of Captains Pemberton and Strachey severally to the Chinese frontier, and of Major Sir William Harris to Abyssinia, the results of all which have been for the most part published.

'. . . Something, indeed, of the kind, a very meagre assimilation to such corps, was at one time formed by the Master-General of the Ordnance under the appellation of the Corps of Royal Military Draughtsmen, and was divided off into three classes, or grades, as the commissariat, but without any specific military rank or proper constitution. The members of that corps being variously distributed, some were detached with the army in the early part of the campaign

of 1807 to 1809, in Spain and Portugal; others were stationed at High Wycombe, or employed in the Survey of England, then commencing in Cornwall and the south-eastern counties. They were generally employed in connection with the Engineers, never with the Quartermaster-General's Department, having originated with the Ordnance, who therefore jealously claimed and reserved their services. Not having any proper head, or representative officers, this corps had no countenance from the Engineers, and fell into disrepute, till, in 1814, it was done away with.

'The designation of topographers (*topographes* or *ingénieurs géographes*) is that employed in Russia, France, etc. . . . . Their work in France and Russia, as I can speak from personal knowledge, is regularly communicated on the spot to the Commander and chief staff of the army, and accurate tracings with summary descriptive notes sent home to the depot, where they are compiled, laid in a consistent shape before the Minister of War, and carefully placed on record, with a view to after-reference and the construction or improvement of particular maps. These records I have inspected and examined with the greatest attention. In France they have supplied the materials for constructing the entire maps of the Morea, Algeria, Syria, Lower Egypt, etc. . . . . In Russia the geographical and astronomical observations date as far back as 1737, but the depot was only finally disconnected *in toto* from the Quartermaster-General by Prince Volkonsky in 1817, since which period it may be said to have made real progress, and the like may be affirmed of the Austrian and Sardinian. . . .

'I have, etc.,

'T. B. JERVIS,

'Lieutenant-Colonel; Director, Topographical and Statistical Depot, War Department.'

In writing to the War Department on September 15, 1855, Lieutenant-Colonel Jervis points out some of the reasons

why geographical maps had not been improved in England, as they should have been:

'The great deficiencies of this country of every kind of good geographical maps and statistical information suited to military purposes, and the consideration of any questions of a local nature, are very generally admitted, and the imperfection of such as are usually appended to our literature a reproach to us. We are principally indebted to Sir Francis Beaufort, Major Rennell, Admiral Smyth, Messrs. Arrowsmith and Johnstone, for the few correct maps that this country can show, though we have neither a good map of Europe or England, or any original physical maps; nor can it be doubted that this state of things is to be ascribed to the want of some public stimulus and direction, some proper department, competent and avowedly constituted, as the Hydrographic Office, to take the initiative, and furnish the means of scientific research, and to record the various political changes that may supervene from time to time in the boundaries, configuration, and subdivisions of different States. . . . Nor could any sufficient inducement have been held out to private parties to publish maps with any probability of reimbursement. This a Government alone could undertake, in the prospect of benefits to the country and to science, in which all are alike interested, or to the public service. . . .

'The director's first and principal duty is, therefore, to be prepared at all times to furnish the Government with the most recent and exact information on all matters connected with the geography and statistics of foreign countries; to collect and methodically reduce whatever maps or works may come to his hand into one record; to construct, lithograph, engrave, and, with the concurrence and authority of the Minister, to publish all such maps and memoirs as may be judged desirable in regard to the political and general purposes of the country. As a preliminary step to the accurate construction of any such original maps, to

construct a general scheme of projection for the great divisions of the earth, and for every separate State and country on a large scale, on which, as on a register, to lay down all authentic, astronomical, and geodesical observations, so as to form the basis, or fundamental network, of any maps that may have to be constructed, and not to be hereafter capriciously alterable by negligence, ignorance, or diversities of scale, orthography, and detail.

'Further, the systematic discussion, record, and publication of all such astronomical publications and the principles and authority on which they rest. The former of these objects has engaged my attention for many years, and will, if properly carried out, procure for the newly-formed Topographical Depot, and the maps constructed upon such principle, a character for dependence befitting the productions of a great national establishment. . . . Astronomical observations furnish the only reliable means for maps of extensive and remote regions. Yet all such observations would be generally unattended with any practical advantage unless carefully discussed and recorded, and could find thereupon no better place of security than the State archives of an establishment for that prescribed purpose.

'These duties, necessitating an acquaintance with a great variety of subjects, researches, and languages, are not calculated to make any great show; but are nevertheless indispensable, and would, if neglected, nullify the benefits to be derived from concentrating such undertakings in a national establishment. It is of the first importance that the director of such establishment should concur and co-operate with the Hydrographer on all questions, and every means be taken to ensure uniformity of orthography, and that, as far as practicable, friendly relations should be maintained with the directors of foreign depots, as already established by the Hydrographic Office, and a free interchange be similarly made of published maps, by which means alone the above duties can be effectually carried on with any good result. . . .

'This in the abstract will, however, convey a very imperfect idea of the innumerable cares that unavoidably attend the conscientious discharge of the foregoing duties. Adverting to the establishments of Russia, France, the United States, Austria, etc., I should have shrunk from the acceptance of the extremely onerous and complex duties of the directorship of that to be organized for this country, with only one person to assist me, and the few draughtsmen and engravers I could procure on any terms, but that I considered the very great attention I had paid to the subject and its scientific details might be of the utmost service to the Government, and assure to Great Britain an establishment to the study of which, in my enthusiasm for the promotion of geographical science and the extension of civilization to unknown and unenlightened nations, I had for many years devoted much thought and made great sacrifices.

'I have, etc.

'T. B. JERVIS,

'Lieutenant-Colonel, Director.'

Shortly after the Parliament had voted the necessary means for the working of the newly-instituted Topographical and Statistical Depot, Lieutenant-Colonel Jervis wrote as follows to Lord Panmure:

'TOPOGRAPHICAL AND STATISTICAL DEPOT,
'WAR DEPARTMENT,
'*June*, 1856.

'MY LORD,

'. . . I have perilled my life and fortunes and applied my utmost energies with untiring devotion for upwards of twelve years for the attainment of this national desideratum, thus to cancel a reproach, so to speak, from our country . . . and to engage the Government authorities to redeem the superior opportunities at their command of establishing such office. . . .

'It has eventually, by your Lordship's intervention and decision, acquired an official existence and consistency that

will effectually ensure its continuance and advancement to the most extensive purposes of public usefulness, and, I have every reason to believe, hand down your Lordship's name and administration, as that of the minister Louvois' from like incipient establishment, with honour and gratitude to the discernment and approval of future times, when many other official acts of greater present note shall be passed over with comparative indifference.

'The accomplishment of this work, it may well be supposed, has been no easy matter; it has been the result of indescribable anxiety and labour, and involved frequent severe trials and sorrows, which in every instance have been remarkably overruled by Providence, and singularly crowned by the approbation of my Sovereign. . . .'

Writing officially to the War Office on June 24, 1856, he again urged the Government to place 'a limited number of officers, from twenty to thirty, and the like number of very intelligent non-commissioned officers, or privates, taken indiscriminately from any regiment in the service, at the Topographical Depot, under the orders of the Director, relieving them, after a time, by others, and instructing them successively, through the medium of correct and beautiful models, the study and preparation of explanatory memoirs of the most remarkable military events and wars, with the plans, surveys, and illustrations which should accompany them; thus to form, in fine, out of these elements, a faithful historical record of the progress of the profession of arms, correspondent with that of national improvement and the general march of art, science, and civilization, while administering to the vital interests of the army.'

At the beginning of the year 1856 Lord Panmure fully agreed to Lieutenant-Colonel Jervis's earnest recommendation that a scientific geographical exploration should be carried on under the orders of Lieutenant-Colonel Geils, at that time in Armenia on military duties. A party, consisting of a civil engineer with two surveyors and draughtsmen of experience,

were equipped with the necessary instruments, supplied from the Topographical and Statistical Depot. On this subject Lieutenant-Colonel Jervis writes: 'I have given them a great deal of information, furnished them with copies of my papers and geographical data, and every necessary instruction.'

After some time, Lieutenant-Colonel Geils sent a beautiful route survey from Erzerum for about ninety miles to Erzingam, including all the upper course of the Euphrates, on the scale of one inch to a mile. He wrote to the Director of the Topographical and Statistical Depot:

'Erzingam, as I have ascertained from Colonel Chesney, is two days' journey to Semet, at which place he commenced and carried on the survey of the Euphrates to its embouchure unto the Persian Gulf. It would be therefore highly important, from a geographical point of view, to connect and complete that route, which would contribute, with the various data recently communicated by the East India Company, a most valuable base line, or foundation, for any future geographical operations, and encourage geographers and travellers to improve our acquaintance with those countries. The continuation of the route northward from Erzingam to Trebizond would be of very great utility from a commercial point of view. The trade carried on along this line would justify a very considerable outlay for the development of the resources of the interior, and facilitate the transit of European manufactures, which find a ready and enormous sale at Trebizond. It would contribute, by such extended intercourse, to divert the restless, uncivilized tribes in the interior from predatory and hostile feuds to habits of peaceful industry and commerce. The survey of this route was prosecuted at my suggestion, but cannot be definitively and satisfactorily laid down until connected with Trebizond, Semet, or some other point, as Batum, or the north-east of Erzerum, astronomically fixed, both for latitude and longitude.'

Thus is Thomas Best Jervis's name intimately associated with our earliest and best geographical knowledge of the

entire upper course of the ancient Euphrates, from its origin, as of the upper course of the Araxes, as also the former home, now become the charnel-house of the ancient Armenian race, upon whom are directed the too platonic sympathies of the civilized world. It should be mentioned that the special library of the Depot, containing a large number of the most reliable and rare publications, in numerous languages, relating to different countries, and all matters in any manner connected with geography and geology, already assumed national importance under its first Director.

Among the ostensible results of the Topographical and Statistical Depot was the important topographical and military model of the fortress of Sevastopol, with the whole of the allied occupation, including Balaklava, on the scale of 10 inches to a mile, carved in wood, constructed with the aid of all the official documents, several distinguished officers, among others Colonel Hamilton, contributing to make it worthy of the nation, Lieutenant-Colonel Jervis superintending the execution with great zest. But it would never have presented that beautiful artistic appearance which it finally had but that Mrs. Jervis volunteered to paint it, and by the application of various powders to give a faithful illusion of the rocks, forests, steppes, and roads. Her Majesty Queen Victoria was pleased to pay a special tribute of eulogy for the execution of the model after having minutely examined it for an hour, and so did Prince Albert.

An irreparable loss to the family occurred in relation to this matter, for Lieutenant-Colonel Jervis writes elsewhere how greatly he lamented to add: 'the gracious testimonials of Her Majesty, and H.R.H. Prince Albert, and Lord Hardinge have been carelessly lost in their transmission to the War Department; nor can I obtain any account of them.' Of these he would have said, *Hoc potius mille signis.*

The work of the depot was faithfully and energetically executed, besides much left unfinished at his death. A notice for the public must evidently be based on the results which were presented *for sale.* Among other maps constructed

was one of the countries to the east of the Black Sea, in reference to which the Director wrote to Lord Panmure:

'I beg leave to lay before your Lordship the firstfruits of the department under my direction; the accompanying copies of a map of Kaukasia, which has been constructed with the utmost care on an entirely new projection (the cycloidal development), on the basis of a great number of astronomical observations, and various Russian and other documents, on a scale of eight miles to an inch. In explanation of what might otherwise appear defective, I should observe that the configuration of the great mountain range of the Kaukasus, from 12,000 to 18,000 feet high at its three culminating points, is very imperfectly known, and any representations of it on the best maps hitherto published are, in a great degree, conjectural. I thought it better, therefore, for the present, to confine myself strictly to what is authentic, or rests on well-established or reliable information—a rule which may be advantageously applied in respect of all maps that may emanate from this department. . . . Your Lordship may probably judge one of these copies worthy of being given to Her Majesty.'

Two sheets, at least, of this map were published, embracing the countries between the Sea of Azov and the Black and Caspian Seas.

Of the other sheets, extending to the south and east, and embracing the Russo-Persian and Russo-Turkish frontier provinces, and from the Steppes of Bokhara and Herat* to Armenia, at the present time of such painful actuality, it may be mentioned that they were all laid down, including the new survey of the upper course of the Euphrates and Araxes, with route down to Trebizond. The proof-sheets were only in outline. The title of this document was, 'A

* Lieutenant-Colonel Jervis unceasingly repeated that the Russians aimed at the possession of Constantinople, as the Key of Europe, and Herat, the Key of India, which they ought by no means to be allowed to possess. The same danger exists in 1897.—Ed.

Map of the Black Sea and the Caspian, including the Russian Trans-Kaukasian Provinces, and the country lying to the north of the Kaukasus, as far as the Sea of Azov,' constructed by Lieutenant-Colonel Jervis, but, as will be observed, the title was no longer applicable to the entire unfinished map.

Of the other works issued to the public were:

'Map of the Principal Military Communications of the Kaukasus and Contiguous Provinces, constructed in 1847 by the Divisional Staff of the Imperial Army of the Kaukasus, and corrected to January 1, 1853. Translated from the original Russian, and engraved at the Topographical and Statistical Depot of the War Department,' with additions and further corrections to the present date by Lieutenant-Colonel T. B. Jervis, director, 1856. Two sheets in chromolithography.

'Map of Khiva, the Sea of Aral, and the Country between the Caspian and Herat,' constructed by Lieutenant-Colonel Jervis. One sheet in chromolithography.

'Historical Treaty Map of Europe, in extension of that of General Haxo,' by Lieutenant-Colonel T. B. Jervis. One sheet in lithography.

'Administrative Map of Moldavia, from the original Rumanian map'; the names translated by Lieutenant-Colonel Jervis. One sheet in lithography.

'Plans of Sevastopol with the defences and siege operations.'

'Plan of the fortress of Silistria.'

'Plan of Erzerum and environs,' etc.

Mr. G. E. Ravenstein, who has long been known to the geographical world, was on the staff on the Topographical and Statistical Depot, which likewise included a good artist, who made several large views, which were lithographed and sold to the public. Such were:

'A General View of Kars,' from a drawing by Lieutenant-Colonel Lake, forwarded to the Foreign Office by General Williams.

'View of the Battle of Balaklava,' from a sketch by Colonel Biddulph, R.A.

'View of the Docks of Sevastopol,' with the town in the background, from a photograph by Mr. Robertson.

'View of Kertch from the North,' from a photograph by Major Stokes, R.E.

'View of Heligoland.'

This was not without precedent, for the Dépôt de la Guerre at Paris had prepared a very rich collection of paintings and drawings, which were there engraved of large size and at great expense, to represent memorable events of the military history of France.*

* 'The War Office List and Administrative Directory for the British Army for 1896,' pp. 58, 59, gives thus the present organization of the important Military Intelligence Division:

Director of Military Intelligence, Major-General Sir J. Ardagh, K.C.I.E., C.B.;
1 Colonel, Assistant-Adjutant-General;
5 Officers, Assistant-Adjutants-General;
6 Staff Captains;
Besides Clerks.

'The Director of Military Intelligence deals with the preparation of information relative to the military defence of the Empire and the strategical consideration of all schemes of defence; the collection and distribution of information relating to the military geography, resources, and armed forces of foreign countries, and of British colonies and possessions; the compilation of maps and the translation of foreign documents. He conducts correspondence with other Departments of the State on defence questions, and is authorized to correspond semi-officially with them on all subjects connected with his duties.'

The collecting of information relating to foreign countries is distributed in five sections among the several officers belonging to the Division, and besides the Library (forming a separate section), a seventh section, purely technical and geographical, treats the following matters:

'Maps for military purposes; issue of maps (except Ordnance Surveys); questions affecting the reproduction of maps and sketches, and the issue of all maps to the Army, except those for Engineer service.—Consideration of Frontier Questions.—Map Room: Charge of all maps, plans, and charts.—Drawing and Lithographic Establishment.—Astronomical calculations and record of positions fixed astronomically.—Index of geographical information and record of travellers' movements.—Distance measurements for other Departments.'

CHAPTER XV.

CORRESPONDENCE WITH PRIVATE FRIENDS.

'Ayé, there are some good things in life that fall not away with the rest, and, of all good things upon earth, I hold that a faithful friend is best.'—OWEN MEREDITH.

'To Miss M. A. J. Barber, Brighton, the Poetess, and Authoress of Children's Books.

'22, NOTTING HILL SQUARE,
'*July* 5, 1837.

'MY DEAR MADAM,

'I am much obliged to you for the lines you kindly sent me. I should be still more so if you would transcribe them with your own hand into my little volume of astronomy, and I will give the printed copy to Sir James South, to put up as a memento from you in his observatory, where he has many others from different ladies.

'You have not exactly hit the facts I mentioned to you regarding the two stars.

'After directing our attention to various objects, Sir James South said to Mrs. Jervis: "Now, madam, as you have so nicely distinguished the colours in the satellites of Saturn"—one a very beautiful blue, as if coloured with prussiate of iron—"I will show you the double star Castor."

On directing the telescope to it, she observed two distinct and well-defined stars, appearing to the natural eye under ordinary circumstances as one, twinkling and, as the rest, appearing of a faintish lustre common to all, but under these more favourable circumstances quite different; the one a beautiful sapphire blue, the other a delicate orange. "These stars," observed Sir James, "have been found by very careful observations to revolve around each other in 467 years." "What a speck in creation are we! what a point in time is our existence!" exclaimed Mrs. Jervis. "In the vast distance of these stars from the earth the whole planetary system of our sun and his attendants would be but an atom in space."

'Immediately a thought crossed my mind that this might have been the true original of the idea or figure of the twin stars Castor and Pollux, which Adam, in his happy privileged state and communication with the Divine Being, our Lord and Saviour, might, in his walks and communings with Him, have had pointed out to him, as an apt and glorious emblem of that love, faithfulness, and order of which He is the centre and soul, that attachment of Christ and His Church, of husband and wife, of brother and brother, of man and man, for all things point to Christ, and Christ is in everything. We now in our degeneracy and corruption, through the teaching of idolatry and the blindness of our hearts, as well as the falling off in our corporeal faculties, assign the names of the Twins to two very remote stars (Castor and Pollux). But Adam lived to see two entire revolutions, and what might have been the keenness of his perceptions, mental and physical, as well as spiritual, we cannot now say, who then saw "as far as angels ken," to recall Milton's exquisitely grand conceptions of a fallen angel's powers. Think of all this.'

At a later period Miss Barber wrote, recalling this occurrence:

'19, MARINE SQUARE,
'BRIGHTON,
'*August* 4.

'DEAR SIR,

'. . . The recollections of childhood, you know, are always pleasant, but since the days when I was dressed to go out and spend the evening with my little friends, I remember scarcely any social intercourse more pleasant to me than that which I once had the happiness of enjoying with Mrs. Jervis and yourself. My thoughts often go back to the observatory, and the beautiful planets I have never since seen in their more secret magnificence. I do not wish back those years, though they were more youthful and more happy than the present, for even if not upon the Delectable Mountains, we are further advanced on our pilgrimage and nearer to our home. . . .'

From Mr. Robert Nelson, late Judge at Malabar, Bombay Civil Service.

'1, OSNABURGH STREET,
'NEW ROAD, LONDON,
'*October* 9, 1846.

'MY DEAR FRIEND,

'It was with much pleasure I received your letter yesterday, and am thankful for the affection with which you and dear Mrs. Jervis continue to regard my wife and myself. I frequently made anxious inquiries about you, and it is only your letter that tells us at once where you have been sojourning, and what has befallen you. It is a sad history of sickness. We trust it has not been in vain, but that it has had the happy effect of drawing you both nearer to God, enabling you to cast yourselves more fully upon Him who careth for you with so much love, and who desires so much that we should tell Him our wants and wishes, and ask of Him direction for our steps, which He is most ready to give. I wish we were nearer at hand, that we might see you in the midst of your present perplexity.'

From the same.

'14, HOPE STREET,
'EDINBURGH,
'*December* 12, 1846.

'. . . I hope you and dear Mrs. Jervis are well, as also your children. We shall be glad to hear what your plans are, for both Mrs. Nelson and myself feel much interested in you.

'We have, through the Lord's mercy, become acquainted with a few nice Christians since our arrival here, and with whom we can have fellowship. Some prefer the name of the Lord Jesus to other names, and with these we can join in breaking bread. We hope that you and Mrs. Jervis are prospering in soul, and that the love of God's dear Son dwells richly in the heart, producing much fruit in the life.'

From Robert Nelson, Esq.

'45, FREDERICK STREET,
'EDINBURGH,
'*January* 24, 1849.

'MY DEAR FRIEND,

'. . . It is pleasant to hear of you once again, yet you appear to have passed through much sorrow since we last met, what with personal illness, and that of your dear wife. But the gracious hand of our God has kept, and will keep, you till the glorious day of His Son's appearing, and then all sorrow will exist only in remembrance. I can quite coincide with you in the preference of a sunny clime. The bright sky of India is cheering in recollection, in the midst of the darkness and dampness of this northern latitude, but I have not advanced as far as yourself in contemplating to seek such a sky for ourselves. We hope when Henry's medical studies are over to return to England. Further than that we do not see our way. Where there is

sufficient to live upon, I imagine the greater share of advantages is to be found in England beyond any foreign land, though if the climate be inimical to the constitution, the necessity of such a case might lead one elsewhere.

'It is pleasant to my wife and myself to find that you and dear Mrs. Jervis have such kindly affection towards us. It is, I believe, pleasant to the Lord that His people love each other, and more especially where they do so for His sake. It is by this we are to be known as His followers, and surely it is by the overflow of kindly sentiments towards each other that love is kept alive and increased. I feel that we have in your dear relative, Miss Paget, one whose conduct in this respect is a beautiful example of what each Christian should be in his intercourse with the family of God.'

To —— he writes:

'8, RICHMOND HILL, CLIFTON,
'BRISTOL,
'*January* 15, 1849.

'MY DEAR SIR,

'I naturally turn to Asia. There my grandfather was twenty-seven years in the Civil Service, and died when Governor of Surat. My dear and honoured father was Assistant Resident in Ceylon, where he died, and my brothers and I, and also our children, having been all born in India, we feel a regard for the people of Asia, and it may be the Lord's gracious purpose even yet to answer my prayerful desires to carry out those objects of civilization which were for many years my anxious object. I think I may be enabled to promote a far more correct knowledge of the geography and productions and statistics of those countries, and be of some use to the missionary cause, in educational matters especially, from my previous practical experience and general taste for science, and having been in situations and offices of confidence under the Government of India. My endeavours were thwarted by some persons who have been mainly instrumental in perpetuating idolatrous ceremonies, and the

payments to Juggernath; but their power is gradually falling before the efforts of the united churches of the three presidencies, and the missionaries of various bodies scattered thickly over that great Empire. . . .

'Far be it ever from me to rise or lie down with any other feeling or expression—and my beloved partner unites with me in the same—but that of deep and solemn thankfulness and wonder at God's gracious and merciful kindness. I could tell my friends of deliverance in battle, from shipwreck; from cruel death, and many losses, too, which others have experienced in like places under my own eyes. But more than all that, that my dear wife and children have been spared also to me, and that I have been privileged under the affectionate teaching of the missionaries—the Scottish and American chiefly—to know and love the Saviour.'

To the Rev. Dr. Osborne S. Tancock, Truro, he writes:

'HAYLE, CORNWALL,
'*February* 8, 1850.

'DEAR SIR,

'I hope you have been much pleased with the Hebrew Concordance, of which I had given you a very imperfect description. It is adapted to all classes, the learned and the unlearned, if only desirous of arriving at the exact knowledge of the precise *import of the letter* of the sacred Scriptures. The *spiritual purport is only to be derived from the Divine Teacher* with earnest prayer and sincere faith. Nevertheless, I think we cannot but accept it as an intimation from Him that such helps are at our command, and I look upon them accordingly as the means, under God's blessing, of removing many of those *errors and prejudices and differences of judgment which estrange men from each other*, from each other's affections and charities, and so from the Fountain of all charity. It is one of my happiest employments as years advance, and I find myself thrown on my own resources, to dwell on these topics, and

occupy myself in such matters. I find all my scientific and other reading fall in with them, and receive a development from the consideration of the simplicity and unbending nature of truth, and perceive in any advance—and they are now inconceivably greater than we are willing to believe—a drawing on to the crisis of that dispensation in which we now live, when many shall wonder that the human mind could so long have been enslaved and besotted with the inventions of superstition, formality, and ignorance, and concur to dethrone our own opinions, and know only the Lord's will and seek His glory. It is a feeling very generally entertained that, as there are differences of opinion now, there will ever be such on earth in matters of religion, little account being taken of progress—the progress of mind in science in the estimate of the past, the present, or the future, or a thousand non-essentials, which, nevertheless, in no remote times were considered as of the first concern to society. To note all these as marks by the way, and observe them with the eye of Christian faith, is, I think, in some way to see God's dealings with us in history and the more immediate experience of life. Our legislators and statesmen, the authorities that be, seem very slow to recognise the onward movement, every event of which takes them, as it were, by surprise. But I am persuaded all God's people are constantly on the watch, and in bringing every fact, as far as they see it, intelligibly to the test of God's Word, they rejoice in many circumstances that to others portend nothing but confusion and change. From the little that has passed between us, my dear wife and I felt a sweet assurance that your mind has long been directed to these bright prospects of the dear Redeemer's crowning work, when the earth shall be filled, through the Spirit's love and teaching, with a more clear and comprehensive view of all designs in grace; and as every servant of God is enabled to contribute ever so little to the explication of His Word, and to heal the distractions which have grown out of self-

righteousness and ignorance, we may rejoice in it as a special favour to ourselves.

'There is another object, moreover, in all these works, which is of no secondary importance, that of correcting any possible misinterpretation in our Authorized translation, which, granting they be ever so few, do not for all that furnish any plea for such as may exist; and as the translations in every tongue were the work of man, they are open to reasonable criticism. Of course I do not mean captious contention respecting mere words, or even passages supposed by the enemies of Christian truth to have been interpolated, but questions implicating the attributes of the Divine Being. For instance, the *repentance* which the learned Jews would translate somewhat differently, and others which afford men grounds of disaffection to each other, both which, when they clash with Protestantism, we can point out without fear to the Papist, but which we have scarcely considered, as they affect the various parties into which the true Church of Christ is broken up. But these are grave matters, and only to be approached with reverence and humility, and require no common gifts of charity.

'In the mixed and variously informed multitude gathered around you from Sabbath to Sabbath, I can well imagine the anxious concern you feel to bring this spirit of earnest inquiry and forbearance with each other to your auditors' apprehension, to speak plainly but fully out all that you yourself gather from the precious Word, and clear up its difficulties, or administer its consolations to the sin-burdened. I am sure such works as these will engage you to think much of the intensity of meaning which the original was designed to convey, and which the translation, with such further helps as the parallel passages and these parallelisms of the Hebrew are calculated to afford, for they furnish, in fact, an entirely new class of ideas, which only a profound Hebraist could heretofore have hoped to attain.

'After all, there is no infallible teacher but the Holy

Spirit, and no scholar like the humble disciple of Christ; and while I am presuming to write this note to you in all deference, as a Christian brother, on the way with you to our Father's home, I am persuaded you will not be displeased with the frank expression of my thoughts, and of the sincere regard which my wife and I entertain for you and your family.'

To this letter the Rev. Dr. Osborne Tancock replied as follows:

'TRURO,

'MY DEAR SIR, '*February* 16, 1850.

'Your kind and most acceptable letter has reminded me that I have not yet thanked you for the loan of your valuable Hebrew Concordance. I am indeed very much pleased with Aaron Pick's interesting book, and think the light thereby thrown on several passages that in our translation are obscure is very considerable. There can be no doubt that the study of the Word of God in the original is a most important duty for all those who have the means of engaging in it, and that those who wilfully neglect to avail themselves of such opportunities are very far from being in the same position as the unlearned man who could not enjoy such facilities. We all admit, of course, that the Holy Spirit alone can savingly and experimentally instruct the heart; but He does it through the use of various means, suited to our several circumstances. I perfectly concur with you in the opinion that the paucity of misinterpretations in our Authorized Version is no reason why we should remain in ignorance of the true meaning even of these few passages. Nay, more; if we have the power of reaching their true signification, we are culpable in neglecting to do so. But there is much comfort to be derived from the reflection that to the unlearned a *translation* of God's Word (especially *such a translation as ours*) is essentially the Word of God itself. This is happily capable of demonstration. *Our Lord*

and His Apostles never hesitate to quote from the Septuagint Version of the Old Testament, as being God's Word; and yet we know that several parts of this version are very inadequately, not to say erroneously, rendered. I do not, of course, include such translations as are designedly erroneous, with the intention to deceive, or to impose unscriptural dogmas on men.

'I assure you my wife and myself regard it as a very great privilege to have formed an acquaintance with you and Mrs. Jervis, and we trust we may be still permitted to see more of each other. These are pre-eminently times when the followers of the Lamb should be united together as one man, to bear their protest against the conflicting and contradictory errors that threaten the Church of God on the right hand and on the left; here the beggarly elements of a ceremonial superstition, there the unhallowed and impious speculations of a rationalistic, frigid, and infidel philosophy, falsely so called. What a consolation to know that all was a chaotic mass of confusion when at first God said, "Let there be light, and there was light"! and that now the absence of faith, the prevalence of ungodliness, the confusion of tongues, theories and creeds all prove the existence of another chaos, out of which, ere long, the still brighter and more blissful light of evangelical and celestial radiancy shall arise with perfect healing on its wings, and we shall all be for ever one with each other and our glorified Head!'

His valued friend, the Rev. John Punnett, writes to him about the work in which he was engaged:

'ST. ERTH VICARAGE,
'*November* 6, 1850.

'MY DEAR MAJOR JERVIS,

'As you proposed remaining at Brussels till the fifteenth of this month, I delayed my reply to your most kind and welcome letter that I might tell you of one or two coming

events which have now passed, especially our Bible Society meeting at Hayle. It reminded me, of course, of my feeble condition at our last anniversary, and of your friendly attentions and assistance upon that and on many other occasions. The meeting went off exceedingly well, and the two Methodist preachers spoke in a good spirit and much to the purpose. On account of the impaired health of my colleague, Mr. Rogers, of Camborne, the working part of the secretary's office of the County Society has fallen upon me, and I confess I never felt more thoroughly in sympathy with any society than with that noble institution the British and Foreign Bible Society. If there ever was a period when an appeal to "the Law and the Testimony" was peculiarly necessary, the present is that period. The enemy has come in like a flood upon us, and Pio Nono's late book has, I hope, checked the Romeward tendencies of many whose eyes were not to be opened by any less overt and audacious inroads. Happily the rash old gentleman has touched upon a sore place, and, by aiming his quarry so high, has startled the lukewarm among the hierarchy to do their duty and stand by their guns. It is now felt to be a contest *pro aris et focis*. A contemporaneous movement of a far less obtrusive character, but one of no small importance in my estimation, and which had begun, happily, before the Pope's manifestos, is telling fast in the right direction. . . .

'Your letter gave us sincere pleasure, because it told us of your happy position at Brussels, in the midst of good Christian intellectual society. . . . We were both sorry not to have made Mr. B——'s acquaintance, though I cannot say I sympathize with him in his apprehensions that he might, in conscience, be compelled to leave the Church of England; for my part, I believe I am in my proper place, and until *turned* out I do not intend to go. What's to become of the ship if the crew forsake the pumps? Do let us hear from you when you have a few minutes to spare; your letters are peculiarly welcome.—Ever your sincere and affectionate friend.'

From Gevrouwen Van de Kasteele.

'THE HAGUE,
'*November* 13, 1850.

MY DEAR MRS. JERVIS,

'. . . I know nothing more painful than to be separated from dear friends, especially when they were so kind and obliging to us as yourself and Major Jervis. I still recollect with delight his inestimable endowments. His words pleased us so much; they were so instructive, so pious, that we remember daily those precious moments we spent in his society, grateful for the many good things we learned by his conversation, and very much grieved that circumstances obliged us so soon to part with one whose intercourse as a Christian friend would have been so improving to us. From the first moment we became acquainted with you we felt there were stronger ties than worldly convenience which brought us together. Faith has an inward voice, which needs no words in order to be understood, and to suggest sympathy between believers. . . .

'GERTRUDE VAN DE KASTEELE, and
'MATHILDE VAN DE KASTEELE.'

His old brother officer, Major William Jacob, late Bombay Engineers, Professor at the East India Military College, Addiscombe, writes to him:

'ADDISCOMBE,
'*March* 13, 1851.

'MY DEAR JERVIS,

'. . . I have to acknowledge and thank you for your letter of the 11th instant, just received. If time allowed me, I could, and gladly would, reciprocate all your observations on the signs of the times. How ominous, how full of forebodings of ill to our country! "Coming events" already "cast their shadows before," and the believer's only safety is in keeping close to Christ. Here we are, surrounded by darkness in the clergy, preaching they know not what—anything but the Gospel of Christ. But so long as men are trained to the ministry as a *profession*, without any reference

to fitness for it by the call of the Spirit . . . how can we wonder to find Christ's "little flock' still a Zoar amongst the cities of the plain? . . .

'Your mention of poor dear Mrs. Pouget greatly interested us, for our only tidings of her entrance, as we doubt not, into glory, was her brief obituary in the newspaper. We certainly sympathize with dear Mrs. Jervis on this bereavement, for we know how attached the sisters were, and how deeply she must have felt the bereavement. For the dear departed we have only to feel assured that she has joined "the countless multitude" around the throne. Your mention of your dear boy and daughter also interests us. How their growth marks the progress of time! Our own three dear boys are well at school, and growing up, I trust, all we could desire.

'God bless you, dear friend. Mrs. Jacob begs her kind love to dear Mrs. Jervis, and with our kindest regards to each and all your circle.'

The following contemporary judgment of the tremendous *Coup d'Etat* of the Emperor Napoleon III., on December 2, 1851, especially as the mature opinion of a clear mind, adverse to all violence, injustice, or despotism, but a lover of constitutional order and gentle, liberal institutions, is invaluable as a qualified justification of the personage whose memory has been so greatly maligned by his own countrymen, torn by extremes of thought. There is much wisdom in it. It was addressed to his dear and respected friend, the Rev. John Punnett, Vicar of St. Erth, in Cornwall:

'ATHENÆUM CLUB,
'LONDON,
'*December* 10, 1851.

'DEAR MR. PUNNETT,

'I feel that we should be very ungrateful not to think of you at all times and the many kind favours we received from your family, and at the risk of occupying your time

for a few minutes will reassure you that our thoughts frequently turn to Cornwall with pleasurable recollections. The last Sabbath brought you more vividly before my mind in regard to a subject nearer to your heart than the very stirring events of our neighbour land. I then added another to many highly interesting critical and wondrous proofs of Scripture, at which I think you will feel disposed to express a like degree of pleasure.

'We find a Greek term used peculiarly and most appositely twice, and only twice, in the New Testament, κυριακὸν δεῖπνον and κυριακὴ ἡμέρα—the former, the *Lord's Supper*, commemorative of our blessed Redeemer's atonement and death, brought to our notice more distinctly and impressively month after month; the latter, the *Lord's Day*, the commemorative fact of His resurrection, the fundamental fact of Christianity, brought to our notice—to the notice of all, young and old—every Sabbath. But your mind will improve upon this glorious theme and see in it more than I can properly express. I will only further say, that I see no warrant that the Roman Catholic or Puseyite has to draw that the Sacrament is an institution by way of sacrifice, but rather the *commemoration*, which, before the Saviour's coming, had been typical of the Saviour's future atonement, and the Lord's Day, the first day of the week, commemorative from the time of the exodus from Egypt of their escape from that land of bondage. "This shall be the beginning of months, the first day of the year," etc. But I think its profitable application is in your hands, who love your people so well.

'Every succeeding day appears to bring with it a greater complication of events in our busy political world, and completely to baffle all attempts to surmise what may be the issues of the morrow.

'The 2nd of December, the anniversary of Austerlitz, and the installation of Napoleon in 1804, has perhaps realized, or anticipated, the expectations of many thinking

persons, but as yet I think neither the English press nor the public mind has become sufficiently informed of the facts that have transpired, rightly to appreciate the object and proceedings of Louis Napoleon. All can see thus far, however, that although no soldier, and but a statesman of yesterday, he has shown himself—with whatever breach of faith—a man of greater talent (shrewdness, rather), and personal courage (coolness) than we on this side of the Channel suspected him to have possessed. It appears to me that our journals, and the *Times* especially, overlook the character and situation of the people he has to deal with, as well as the whole train of revolutionary changes and struggles through which the various conflicting parties at the head of affairs have there passed, and thus treat Louis Napoleon's conduct towards the factious National Assembly as a violation of *all* justice, not considering that he has thus merely anticipated by a few hours a procedure which might have involved a much more extensive and fearful amount of anarchy and bloodshed.

'So, in fact, I learn from the perusal of a letter from the Marquis de Rochefort, a colonel of cavalry at Paris, to his brother, a friend of mine here, the Count de Rochefort. He says it was discovered that, but for this movement, he, with other nine colonels of regiments there, were to have shared the same common fate with Thiers, Changarnier, and Cavaignac, together with the President and his Ministers, if, indeed, these had not met with a severer fate. In such case Louis Napoleon, at great hazard, anticipated the fatal blow, and precipitated a crisis of which, on a previous year, he had spoken as the last desperate resource of wrong.

'What I think to be but just is to put the question fairly to ourselves, in a humble view if we will, for the sake of argument, and judge what would have been our first impulse, thus thwarted, threatened, and imperilled as he was, admitting our intentions to have been ever so good, or our own designs and views in calmer moments more sincerely expressed.

'I hesitate not to say that the best of us, I think, would tremble and falter at such a moment of trial, with such an aggravated pressure from without, and so little stability, so little of religious or educational habits as may have fallen to his lot, to restrain the fierceness of private passions. Let us contrast the palsied hand of Louis-Philippe, the inexplicably stricken state of the 60,000 soldiers in the revolution of 1848 with the bold but venturous movement of Louis Napoleon, and count the issue. The former was weak and wanting in courage, as it was unaccompanied with cruelties, or a less loss of life and sacrifice of property. Had Thiers and his colleagues succeeded in getting the upper hand without any avowed political principle, constituted as that faction was, of men of all shades of character and objects—Legitimists, Orleanists, Royalists, and Red Socialists—what might have been the still more dreadful consequence to the peace, not of France only, but to the general peace of the world? I think, then, that our press is hastening to conclusions which our present imperfect knowledge on this side the Channel does not justify. Theirs is the fond expression of a humane and generous, but misinformed or uninformed mind, overstepping the limits of its capacity. We have, indeed, to bear in mind that France is essentially a military nation and government, disorganized to all practical purposes by a long series of revolutions of every sort; its ancient laws entirely abrogated or recast, its credit and prospects so deeply affected by such changes that to treat any subversion of these institutions as the venerable, tried, and accepted institutions of *our* happy Constitution would be preposterous; that France, moreover, is a nation so thoroughly demoralized and destitute of religious character that any appeal to such standard must be fallacious in the extreme; and, in this view, that God—I speak it with reverence—seems to have sent them such a severe ruler as was best adapted, as it might be, in His purposes of pity, to recall them to a sense of duty. Louis Napoleon in this case

seems to be thoroughly master of his subject, and to know with what passions and principles he has to deal. To talk of quelling or directing such a spirit by any but the iron hand of discipline, would be impracticable; but Louis Napoleon, indeed, probably no other leader that might be chosen, has that religious, tranquillized, energetic, and wise spirit as is demanded for the government of France by the British press, glowing with all the honest expression of liberty, and loyalty, and obedience to the constituted regime of our country.

'I dare say you have thought much and deeply over these matters, and their probable bearing on the development of those stupendous events which will precede the consummation of the reign of anti-Christian error and bondage. All Europe seems preparing itself for some great move, and England will need a far greater amount of talent than has for years been found in our cabinets. Where it is to come from is hard to surmise.'

At the close of the Crimean War, Marshal Vaillant, Minister of War, of France, thus alludes to the reception of new North American coniferous trees, to be acclimatized on this side of the Atlantic:

'MINISTÈRE DE LA GUERRE,
'PARIS,
'*23 Janvier*, 1856.

'MON CHER COLONEL,

'J'ai été bien heureux de recevoir de vos nouvelles: je vous remercie des arbres que vous m'avez envoyés; ils ont été mis en jauge pendant quelques jours, puis sont partis pour le Poitou, pour embellir le parc du château de ma femme. Je regrette que vous vous soyez donné tant de peine.

'Si vous étiez, je ne puis pas dire un meilleur homme, c'est impossible, mais un homme plus simple, je vous demanderais des *graines;* vous entendez, des graines de *Pinus insignis*, ou Pin du Prince Albert. Son Altesse

Royale m'en a fait parvenir l'an passé (1854) pour l'Empereur, mais ils ont levé en très petit nombre. Je voudrais en envoyer en Algérie, où il n'y en a pas encore. Pour cela il faut des graines, pas d'arbres tout venus.

'Le Prince avait bien voulu envoyer aussi des graines de *Cedrus deodara*, mais elles ont toutes pourri.

'Merci du dessin des Docks: je l'ai fait copier pour la Marine. . . .

'Ma femme vous fait bien ses remercîments.

'Adieu, mon cher Colonel! tout à vous.

'MARÉCHAL VAILLANT.'

Before leaving India, Major Jervis was requested to propose a first-rate artist who should accompany the military expedition under Major Sir William Harris to Abyssinia. He mentioned the name of Herr Bernatz, a Bavarian gentleman, who was accordingly appointed, and made a beautiful volume of views. For twenty years he heard nothing more about him, when he received the following gratifying letter:

'MUNICH,

'*June* 23, 1855.

'TO COLONEL JERVIS, LONDON,

'Sir . . . allow me to take this opportunity to state the great regard I have for the memory of your late brother, Major T. Jervis, who acted like a father towards me, and to whom I am solely indebted for the good luck of having been sent to that highly interesting country [Ethiopia]. As a small proof of the grateful sentiments I still entertain towards your late brother, I beg to offer you a copy of my work, "Scenes in Ethiopia," the fruit of my studies in Southern Abyssinia. With the wish that I may henceforth be favoured with your patronage, as I was formerly by your brother's.'

Singular to relate, by a *quid pro quo*, it was precisely to the right person that the splendid chromolithographic illustrations of Abyssinian scenery and life were sent, since the brother who died was Colonel George Jervis.

A few letters received on the occasion of the departure of

Thomas Best Jervis will serve to show the feelings of some of his most valued friends on that occasion:

'26, AVENUE ROAD,
'LONDON,
'MY DEAREST ANNIE, '*April* 6, 1857.

'It was with heartfelt grief that I heard last evening of your severe trial. . . . Whenever I had an opportunity of seeing Colonel Jervis, he always left me with an impression that his was the most loving and Christian spirit I ever met with, and his kind and benign countenance can never be effaced from my memory. I have regretted much not seeing more of him, for I always felt when I was with him what an example he was of Christian faith and love.

'ELIZABETH FARENDEN.'

'NORTH VILLA,
'MY DEAR MRS. JERVIS, '*April* 7, 1857.

'It was with the deepest sorrow we heard of the heavy loss and affliction you have sustained in the bereavement of your dear and lamented husband. I cannot express to you how grieved both the General, myself, and family feel in losing such an old and valued friend. . . . Of the dear Colonel's abilities I need say nothing, but of his private and most amiable qualities everyone who had the honour of his acquaintance will, I am certain, bear ready and ample testimony. He has left few equals behind him. The Almighty has, in His infinite wisdom and mercy, been pleased to take him from this world of sorrow into those heavenly mansions of rest, in God's eternal glory blest.—Ever your affectionate friend,

'ANN HURD MILES.'

'THE HAGUE,
'MY DEAR MRS. JERVIS, '*April* 13, 1857.

'. . . I need not tell you how much I was shocked, nor how deeply and truly I sympathize with you all in your great loss. Before such a sorrow words are utterly inadequate:

we must be silent, and humbly say, "Thy will be done." I earnestly pray that the God of all grace will fill your hearts with the richest of His consolations. How often in the hour of affliction, when the hand of man is powerless, does the Lord appear for His people in a very peculiar manner.

'All who knew your beloved husband will cherish the most pleasant and hallowed recollections of him; he has served the Lord in his day and generation, and he has not less nobly served his Queen and country. As a shock of corn fully ripe he has been gathered into the garner of heaven, but his place will not easily be filled here. I shall ever cherish an affectionate remembrance of the Colonel. It grieved me so much last summer to see him suffering as he did; but he is now partaking of the glory of his risen Lord, and yet a little while and you will all be reunited in the Father's house above.—Very affectionately yours,

'MARY ANN RANSOM.'

'42, NEW BRIDGE STREET, BLACKFRIARS,

'MY DEAR SIR, '*April* 20, 1857.

'Your loss must indeed be a severe one. I trust, however, that that superior wisdom, in the inculcation of which few men could have been more earnest and sincere than your late beloved parent, will support you, as it has supported many under trials of equal severity. To yourself and family, to his friends, and to his country, the event must be a sad one. But to himself it is only a closer union with that God of love with whom he had previously been in daily communion. I, for one, have reason to remember Colonel Jervis with affectionate regret.—Yours, etc.,

'JOHN LE CAPPELAIN.'

'ST. ERTH VICARAGE, CORNWALL,

'MY DEAR JERVIS, '*April* 21, 1857.

'Few of your friends have reason to remember your beloved father with more lively and grateful recollections

than we have; few, therefore, can condole more sincerely with you than ourselves. His end was singularly characteristic of his life; it was only consistent with that strong and conscientious sense of public duty which always influenced him that he should fall a martyr to his zeal in his country's service. Having experienced a great public want, he set himself to devise a remedy for it, and the result of his labours will survive him, to the benefit of his country and his own reputation. But what is all this, my dear friend, when compared with that higher life of which he was permitted to enjoy the earnest in this world, and of which he has now the fulness of the fruition in the presence of his heavenly Father? Deeply versed as he was in the Word of God, he now experiences the truth of its precious declaration—that to know the Father and His Son Jesus Christ *is life eternal.*

'Your dear parent was a "full man," as Bacon expresses it; but he was also a "ready man," communicating the rich stores of his own mind with singular felicity to those who had the pleasure of conversing with him. His maxim was "*dare lucem,*" and, in my own case, I am often reminded of some useful information which I owe to him. His Christian sympathy with me, however, when the state of my own health threw my dear wife and children into such deep anxiety, we shall never forget, and the dear boys often recur to the kind instruction which he so readily and effectively gave them when they were deprived of their father's tuition. The loss of such a husband and such a father to your dear mother and yourself and Annie is no common privation, but he has left you all a rich store of well-remembered and cherished counsel, which will abide with you, and make you to feel that, "he being dead, yet speaketh." Do convey the love and warmest sympathies of my dear wife, myself, and our children to your beloved mother and sister. They well know where to look for comfort and consolation in this hour of their need, and

when the keen side of their sorrow shall be taken off, they will delight to think of the departed one as beholding their Father's face in glory. May we all thus behold Him! I shall greatly value any memorial of one for whom I had such a sincere esteem and affection, based upon the strongest of all principles, a fellowship in spiritual sentiments and privileges.—Ever your sincere friend,

'JOHN PUNNETT.'

'BOMBAY,
'*July* 14, 1857.

'MY DEAR MR. JERVIS,

'When I noticed the intimation of the death of your beloved and honoured father in the papers I became anxious to express my deep-felt sympathy to your dear mother and sister and yourself on the occasion of your sore bereavement, but I was prevented from doing this immediately by the want of your address. The arrival of your letter has put me in possession of what I desired, and I can now say that you have no friend who feels his own loss deeply and abidingly, and who more sincerely mourns with yourselves, more than he who now addresses you. I felt as if death had on this occasion entered into my own family.

'Your father was long one of my best and dearest and most valued friends on earth, giving me a large portion of sympathy and effective help in my varied enterprises in the work of the Lord. I have had, for upwards of a quarter of a century, the highest admiration of his peculiar talents and attainments and Christian devotedness, and you may fully reckon on my complying with your request to do all that is in my power to aid you in your most laudable attempt to embalm his memory for the present and after generations. A judiciously written memoir of him is, indeed, a great desideratum, especially considering the spheres of duty which he has filled, and his noble aspirations after more extended usefulness in promoting the subserviency of

science to religion and philanthropy. May the Lord guide you and direct you in your hallowed undertaking!

'In reference to your father's Indian career, I can doubtless be of use to you. . . . Give me a few notices of his birth and education, and the date of his coming to India, and I shall commence operations by a short article for the *Oriental Christian Spectator*. . .

'Your account of the last days of your father is very interesting to me and others. Many thanks for it. How we should thank God that he got so peacefully through the dark Valley of the Shadow of Death!

'Mrs. Wilson joins me in kindest regards and deepest sympathy for yourself and mother and sister.

'JOHN WILSON.'

The venerable missionary, whose letter we here quote, writing from Edinburgh, September 1, 1876, is happily still in the enjoyment of all his vigour of mind and heart:

'I was well acquainted with Colonel T. B. Jervis, and I had the highest respect both for his character and his attainments. Your father's memory is with me still fresh and precious. He chiefly lived in Surrey Cottage when I knew him [1841], and many were the visits I used to pay him when I was a young missionary in Bombay.

'J. MURRAY MITCHELL' [LL.D.].

* We are not aware whether such article was ever written.—ED.

CHAPTER XVI.

PERSONAL CHARACTER.

'Fading away like the stars of the morning,
Losing their light in the glorious sun,
Thus would we pass from the earth and its toiling,
Only remembered by what we have done.'

HORATIO BONAR.

THE proper study of mankind, as taught us by a mighty philosopher, 'is man.' Not without much reluctance has the writer assumed the delicate task of sketching the very varied development of a mind of the most sympathetic nature, viewed in the vista of time, forty years after his father passed away from terrestrial scenes. This pleasing duty would be still more incomplete were he not to devote a few pages to endeavour to delineate the man himself, about whom the readers have already been interested, assured that they will appreciate his character and his grand soul, no less than his mental powers. For his own part he believes that it would be a mark of moral cowardice to consider, in common with certain writers, that men of science are unfitted by their honoured pursuits from attaching interest to the moral excellency of a member of their own body. Shall he, then, timidly beg a hearing?

About a quarter of a century ago, in visiting the unrivalled gallery of ancient statuary in the Campidoglio in Rome, in



S.a.d.a.g., Geneva

CAPTAIN THOMAS BEST JERVIS

From an oil painting by Hopwood, Bombay, 1830

Printed in Switzerland

company with his dear wife, the writer's thoughts were roused for once in a lifetime from positive duties of a more prosaic nature to philosophical study, not devoid of a spice of poetry, in passing successively before the representations of those ancient Roman warriors whose exploits are familiar to every classical school lad in every country. In conclusion he considered them all expressive of carnal, hard-grained, ambitious propensities; all seemed to bear on the forehead the impress of the imperious, unscrupulous I which directed every action of that wonderful phalanx of intelligences who subjugated the known world. Too often Darwin's supposed animal forefathers seemed to predominate. Two exceptions served to obliterate the painful sensation aroused by the reflection of the untold misery inflicted on the millions slaughtered in order to raise them to that lofty position; and may regenerated Italy never ape the pagan Roman Empire! The Dying Gladiator has been so marvellously represented that he appears to be expiring before one's eyes, and our whole feelings are roused in sympathy for this fine youth, perhaps the only support and protector of a distant widowed mother of whom he is thinking. It is superfluous to add that the other was the bust of the immortal Cicero.

Thomas Best Jervis also had a head of large dimensions, moulded with exquisite symmetry—all the better seen since he was bald—scantily ornamented behind with a few locks of curly, silky gray hair, a capacious forehead, an open countenance, bespeaking genial, benevolent and genuine candour, and illuminated by far-sighted, limpid, grayish-blue Saxon eyes, unmistakably revealing sincerity and a warm, loving soul of the most expansive nature, no less than a lucid mathematical and linguistic mind of exceptional beauty. When uncovered, he was conspicuous in the largest assembly, and could not fail to command respect and veneration, the more so as constant exposure to the intense heat of the tropics for so many years had the effect of giving him the venerable appearance of a person ten years his senior.

A sculptor who had been employed by him for some quite different work during the last year of his life, one day said to him: 'Sir, I have a particular favour to ask of you; pray sit, that I may model your head and make your bust.' Half in earnest, half not to disoblige his interlocutor, he acceded to the request, but never thought of the matter afterwards. The somewhat typical resemblance between the well-ordered heads and noble foreheads of Cicero and Thomas Best Jervis has often struck the writer of this sketch.

One day, on returning home from the Royal Society, then at Somerset House, he related the following anecdote at the family table. He had been in conversation with his friend Sir John Herschel, when they went to find their hats. Sir John could unmistakably distinguish every distant world in space; not so, it would appear, the commonplace objects of this lower terrestrial ball. In walking home, Major Jervis perceived, too late, that the great astronomer had carried off his hat, leaving him in exchange his own, which he found to be exceptionally shabby and altogether past wearing. He, however, resigned himself to wear it again down to the Society, where they eventually adjusted the *quid pro quo* at the expense of a mutual laugh. This incident serves at least to prove the similarity in the brain capacity of the two scientists. On another occasion these two friends were again wrapped in deep discussion, and Thomas Best Jervis left the Royal Society library, as he frequently did, with a large roll of maps under his arm. 'Come, Jervis,' cried Herschel, 'give me that roll; let me carry it for you.' What a beautifully instructive lesson of true greatness! How many a young clerk would blush to be seen in the street with a big paper parcel, while the choicest minds have a far loftier conception of dignity, and in Thomas Best Jervis's favourite words, 'Never be ashamed of anything but sin.'

Often did he recount at home a most characteristic incident relating to Faraday, which well deserves to be known.

He had been to the Royal Institution to hear a lecture on electricity by Faraday, whose friendship he highly valued, and was standing close to him. No man could ever have been more accessible to all who asked him for any further explanation of the beautiful original experiments he had performed; and the audience largely availed themselves of that privilege, so that the lecture-table was usually surrounded by inquirers as soon as he had left off speaking. On this occasion a lady came up to speak to Faraday, and somehow, thinking, no doubt, to pay him a compliment, remarked of him what a very learned man he was. To which Faraday—the very image of modesty, whose calm, benevolent expression of countenance is indelibly impressed on the writer's memory—gently replied: 'Madam, we are on the first step of the ladder of science.' Such was the unaffected estimate he had of himself, with the true humility of a superior genius. Thomas Best Jervis had much such humility. How often has his son heard him say of himself that he did not pretend to possess genius, but that persevering study was often productive of better results than could be obtained from genius. He fully realized that the higher the observer climbs the mountain-heights, the wider the horizon opens out to his view, while the more distant objects appear but dimly and faint to his gaze.

'Fifty pounds reward was offered some years ago,' writes Captain Jervis in 1833, 'and was again renewed to anyone who would furnish a true solution of the following geographical enigma:

'"The noblest object of the works of art,
The brightest scene that Nature can impart,
The well-known signal at the time of peace,
The point essential in the tenant's lease,
The farmer's object when he holds the plough,
The soldier's duty, and the lover's vow,
The planet seen betwixt the earth and sun,
The prize which merit never yet has won,

The miser's idol, and the garb of Jew,
The wife's ambition, and the parson's due.
Hence, if your noble spirit can divine
A corresponding word for ev'ry line,
From the first letters will be straightly shown
An ancient city of no small renown."

'Dining with Mrs. Ironside at Kotaghírí, she handed me the paper, saying: "There, I don't think you can find out that." I said I would try, and, having hit upon the word *Palibothra* first, I thought of improving upon it by a few lines in a religious way. It may be thought a very humble attempt at poetry (or rather rhyming), but it conveys some useful subject for reflection, in addition to the supposed solution. I forwarded it to the editor of the *Male Asylum Herald* at Madras, and to my friend Krishná Mohana Banergia, editor of the *Inquirer*, Calcutta. Since then I have found the intended city to be no other than the place where I passed the happiest days of my childhood—*Litchfield.*'*

The letters to these papers ran thus:

'The true solution of Miss Seward's celebrated enigma is *Persepolis*, but it admits of another, far more curious, *Palibothra*, a remarkable city mentioned by many ancient geographers—Ptolemy, Arrian, Megasthenes, Strabo, Pliny, and Diodorus Siculus—the latter of whom states that it was built by the Indian Hercules, whose posterity reigned there for many centuries. Strabo says they reckoned 6,000 stadia from Palibothra to the mouth of the Ganges, and Pliny that it was 425 Roman miles from the confluence of the Jumna with that river. The solution of the enigma is discoverable from the following words: Printing, the East, Rejoicing, Security, Earnings, Profession, Obvious, Longitude, Israelitish, Settlement (Persepolis). The words

* The words for which are: Louvre, India, Truce, Consent, Home, Fidelity, Juno, Eternity, Lucre, Devotion. Usually spelled Lichfield. —T. B. J.

which, with their initial letters, make up the name of another remarkable city, *Palibothra*, are distinguished in the following lines by italics :

'*Printing*, thou noblest crown of human skill,
God's blessed instrument to spread His will
Through distant realms, where yet His sov'reign grace,
Unknown, illumines not our fallen race.
Auspicious harbinger of coming light,
Aurora rends the darkest veil of night;
Great Sun of Righteousness, Messiah, come,
And gently draw Thy long-lost people home.
Expectant nations hail their *Liberty*;*
Darkness dispell'd, the blind shall clearly see:
Improvement speaks Thy promis'd kingdom near,
Increasing knowledge marks each coming year.†
Ah! famish'd lands, the *Bread* of Life sent down,
That Life, the Truth, the Way, how little known!
For you 'twas sent, th' eternal promise seal'd,
Which God to Abraham, His friend, reveal'd.
The cov'nant Lord, who erst by *Oath* declar'd,
Partook our nature, and our sorrows shar'd;
In Him transcendent love exemplified,
Mock'd, scourg'd and crucified, for you He died,
That ye might live to God, nor abject bow
To stocks and stones, to things above, below,
The sun, the moon, or *Thoth*,‡ or all the train
Of *Heav'n's* created hosts, or earth, or main.
These all, how faintly these, His pow'r proclaim,
Yet these, at His approach o'erwhelm'd with shame,
His spotless purity declares unclean;
Ev'n angels veil'd before His throne are seen.§
When wrath impends vain will all idols prove;
Not so these *Riches*,‖ which can ne'er remove
A Saviour's merits, naught but these redeem
Our souls from wrath—the Christian's dearest theme.

---

* See 2 Cor. iii. 15-18. † See Dan. xii. 4.

‡ *Thoth*, the Egyptian name for the planet Mercury.

§ See Isa. vi. 2.

‖ The miser's idol *mammon*, in antithesis to the garb of the Jews, the true *riches*, which is the righteousness of the saints, or true Israelites. Compare Luke xvi. 11 and Rev. xix. 8.

Thrice happy they whose steps He guides aright,
Attention to His will their sole delight;
These doubts perplex not, no mistrust alarms:
Death and the grave triumphant faith disarms.*

'THOMAS BEST JERVIS.

'NILGÍRÍS,
'*September* 7, 1833.'

Thoughts crowded rapidly into his mind when writing upon any subject demanding reflection. He would begin, as usual, with beautiful, careful handwriting, which might be mistaken for lithography, so neat and uniform was it. But after a time the words began to be less and less distinct as he proceeded, and soon became almost unintelligible to those unacquainted with his writing, till at last they were little more than a straight line, while the thoughts conveyed were clear and perfectly arranged. It is to be mentioned, however, that in merely copying out the longest extracts from writings in any language, the handwriting was uniformly careful to the end, due time being always bestowed on this material operation. This shows that the hurried writing was not due to carelessness, but rather, in all probability, to the wideness of the mental conception, which it became increasingly difficult to record on paper, with the corresponding increase of muscular fatigue of an over-tired hand.

Had he been asked to choose an honorific title, it would have been that of FRIEND OF INDIA, such an affection had he for the people. Mrs. Jervis heartily entered into these views, and they both reaped the fruit of such feelings.

A true Briton, he knew no confines to his nationality but that marked out by the waters round the sister isles. Having had many dear North British friends, he had, if anything, a strong bias towards the Scotch. In politics he was a Whig of the old school, a Liberal of the old type, corresponding to what are styled nowadays Liberal Conservatives. A stanch royalist in common with all his family, his loyal

* See Hos. xiii. 14 and 1 Cor. xv. 55.

the whole money transactions of the entire population, and reaching indirectly by way of charge (I have purposely used that term) and not of tax to all the subjects of the British crown, living under the protection of the British flag, whether in the colonies or dependencies. The amount thus raised would be such as to admit of the discontinuance of several items, the repeal of which has been long and earnestly insisted upon, as attended with peculiar difficulties and vexations in the collection, and grievously affecting the progress and interests of society; that for one instance on Paper, and become I hate to think of to be used as long as the present system continues. The mode in which it might be raised would be as follows. First. It might be desirable therefore, to levy a duty of one penny on every ordinary receipt given by every tradesman auctioneer, or duty person whatever for any above the sum of five pounds, such stamp being simply affixed on the present post office stamp & distinguished by some different device the neglect of which invalidating such receipt and subjecting to a penalty of ——

Secondly That all bankers checks and promissory notes under ten pounds should be subjected to a stamp or duty of three pence, and all cheques under 50 £ one shilling and so on according to a well considered graduated scale and that for each and all separate endorsements a further stamp of like value should be affixed in confirmation of its validity.

PROPOSAL OF A PENNY RECEIPT-STAMP, IN LIEU OF TAXATION,
Communicated to Government through Earl Grey in 1849 (see p. 243).

(Photographed facsimile of original draft, much reduced.)

attachment to the Sovereign was paramount, and his respect for the authority of the Government and legislature, as likewise for the Directors of the East India Company, was manifested by his conversation and his official correspondence. His conception of true liberty lay in the faithful obedience to law, and the reciprocal respect of all classes of the community, each in its proper sphere, and never would he tolerate anyone to disallow his right by birth and education to due respect and deference. To his servants he behaved as a father, and with the most marked courtesy. Never would he allow a dish to leave the dinner-table empty, preferring to forego partaking of it himself. In his long rambles he delighted to talk familiarly with the countrymen; to all classes alike he was equally affable.

After having passed so long a period in India, his reminiscences of remarkable occurrences, places, and persons of every description necessarily furnished him with a budget of bright anecdotes, which he told in simple, unvarnished form, avoiding the caricaturing, exaggerating style, and especially when he could gather a society of young people round his fireside he was in his element in recalling Asiatic souvenirs. But such was his strict love of truth that often he exclaimed in despair: 'I care little to recite my Indian experiences, for people look doubtingly at me, as though I were not speaking the truth.' Enthusiastic and cheerful, withal he had a deep religious feeling, which permeated every action of his life, as the heart's blood flows to the very extremities of the body. His Bible, which he could read in the original Hebrew and Greek, furnished him with the only creed which he professed. He acknowledged the truth of every line of the inspired book, so that he never sympathized with the strifes engendered by sectarian trifles, nor could he see that one party was more in the right than the other in most cases. Among his dearest friends were the missionaries sent out to India to teach the Gospel to the benighted heathen. He gloried in working along with them,

while they in their turn derived counsel, encouragement, and solid help from him. One day engaged in discussing some important scientific investigation in company with the first thinkers of the time, the next he would perchance be sitting in church under the ministry of a young man, ever ready as he was to increase his store of knowledge.

To the members of the military, naval, and civil services of the East India Company as a body the greatest honour is due. To the upright and disinterested conduct of these men, to the less apparent but no less important influence of the ladies, their high personal behaviour, and the fact of the absolute equality with which they are treated by the other sex, must doubtless be attributed, far more than to the mere presence of a handful of our countrymen, the truly marvellous moral grasp we have of the people of India, who have learned to respect their foreign rulers. To this school Thomas Best Jervis belonged from the day he landed on the shores of India. Throughout life he was a polished gentleman, and never treated the natives otherwise than as a gentleman should do. He never patronized them, but rather exhibited that sympathetic regard for their differences of opinion which touched the hearts of the educated rich Parsí, the erudite Mahometan *Mulla*, the philosophic Brahmán, the intelligent native Jew, the sensitive though uncultured aborigines, and the Hindús of innumerable castes.

Both Thomas Best Jervis and his brother-in-law, Lieut.-Colonel Pouget, found great pleasure in talking to the gipsies they frequently came across in the country, and putting to the test the fact that they understand a great many Hindústání words. Whenever he met a lascar in the streets, he stopped to talk to him, or would bring him to his house. He relates a touching anecdote in illustration 'of the secret of managing the natives in India, to treat them as they are—as intelligent, open to reason, and perfectly reconciled to any reasonable purpose made plain to their understandings':

'I was passing one day, some three or four years ago, near the Mansion House, when I saw a great crowd collected, which I invariably avoid, but somehow was drawn into it inadvertently, when I perceived a poor Hindú on the ground covered with mud, and dragged along by the hair and clothes. He was making, as they usually do, as much noise as possible, but it was evident he was sorely injured in body and mind. "What are you about?" I ventured to inquire of the policeman. "What has he done?"—"Done, sir? Well, I have often told him to get away from this with his begging and his matches and what not; I can't get him to come along." I said: "Let me speak to him." Oh, to see that man when I addressed him in his own language! It moved even the hearts of the bystanders. Instantly submissive, anxious to comply with my orders, he rose, and said: "I will follow you, sahib, without a murmur." The policeman resigned his charge to me, simply saying: "Will you, sir, kindly go before?"—"And I will follow you!" cried the poor Indian. The crowd shouted, and the poorest man in that mixed assembly said: "See now how readily and quietly he goes; the gentleman spoke to him in his own language."

'It is needless almost to add I went in this humble service of charity, preceding my poor dark friend at a slowly-measured pace, with no very agreeable feelings, the policeman on one side, and my humble companion on the other, marched off as they do culprits, till I had landed both safely somewhere at the outer iron door of a great building on the south side of Bridge Street.'

Of the sanguine nature of his own disposition, and that ingenuousness of character which gives a peculiar charm to youth, such as none can fail to admire, he seems to write unconsciously from the Athenæum Club, when he observes:

'Happily for the general interest of mankind, the difficulties with which many researches are beset are seldom



CAPTAIN T. B. JERVIS'S HOUSE, AT BELGAUM. 1830, BUILT OVER AN ANCIENT JAIN TEMPLE, SCULPTURED IN BASALT.

(Photographed facsimile of his original pen and ink drawing.)

appreciated at first, by those especially who enter upon them with a sanguine temperament, assured of finding an easy and satisfactory solution of particular questions which lie at the root of the object under consideration. The ardent mind, the truthful simplicity of youth, impatient of the doubts, restraints, and prejudices of age and ignorance, are often disposed to overleap all intermediate steps, and to conclude at all hazards for that which is most consonant with certain ideas of fitness or rectitude, setting aside for the moment any testimony to the disparagement of its particular views not unfrequently formed on peculiar and entirely original principles. To such investigations we are often indebted for many explanations and discoveries of great value, as well as for an abundance of fanciful and worthless speculations. The *audax omnia perpeti* is at once the highroad to victory, though at the same time more frequently the path of presumption and failure, but in any case bespeaks a spirit which, in the energy and disposition of early life, originates the thought then first entertained, which is matured and shaped by time and experience to the consistency of practical truth.'

Perhaps the writer could not find a more appropriate, interesting, and remarkable manner of concluding this memoir than by the following anecdote, in which he fails to find a single trait specified which has not the impress of absolute accuracy. It is taken from Deville's own handwriting:

'Kind to children; but they are more pleasing when grown up than as infants. Warm in friendships; it is a point that requires care, or inconvenience may arise in serving those considered as friends by time, money, or other means. Anger or passion: more an inward feeling than outwardly shown, but if offended strong. It has required exertion to hold in check the lower feelings, but, not carried to extremes, these may have led early to consider of marriage. Diffident at times in actions wanting

excitement; it is a point that wants overcoming at times, or it may produce delays. Firm in the views and opinions when led to act from a sense of duty; a little more self-confidence and importance at times requisite for practical purposes. The desire of approbation is a motive for many of the actions; some disappointment of it will result from the above. A high sense of honour and justice. The desire of property goes no farther than the purposes of life require. Religion respected, having undergone much consideration, but not led away by wild notions on the subject.

'For intellectual occupation the organization is extremely good; few things appear difficult to comprehend, take up, or in giving directions to others. Languages, grammar, the classics, literature, natural history, science, mathematics, drawing, and the physiology of things, well understood, and either of them readily applied to useful purposes.

'Travelling pleasing, with good memory of localities. Fond of system and method by those under the control and direction.

'A great dislike to gaudy or showy colours in dress or furniture. Some feeling for poetry, if it has been attended to. In society remarkably cheerful, with some anecdote, and a good narrator of things observed.

'JAMES DEVILLE.

July 13, 1837.'

'I went to Mr. Deville in the Strand, and presented myself before him'—it is Captain Jervis who writes the incident—'an utter stranger, and requested him to give me his phrenological judgment of myself. I shall never forget the room, the man, nor the whole circumstances connected with the investigation. I was invited to an upper room in which were arranged some 3,000 to 4,000 casts of heads of all persons—good, bad, wise, insignificant, and remarkable. I had been led thither, as far as I can now remember, by a conversation of Sir James South's, and something that dropped from Miss Beaufort, Captain Beaufort's sister. I

exerted my utmost powers and wisdom to keep Deville in perfect ignorance of my name, character, profession, pursuits, or, in fact, anything which could lead to the slightest suspicion of my character. He treated me with respect and kindness, and asked me only one or two immaterial questions on men and things. Whether I was in the army, navy, the Church, law, or whatever profession, he sought not to know, and had simply a stranger before him, who might be anything he chose to imagine. He wrote out the above, which I consider is an admirable and faithful judgment, and when I showed it to my dear uncle, Robert Scott, he laughed, and said it was impossible to have given it without knowing me. I must have told him something or furnished him with the clue to such an opinion of my character and qualifications, which, however, I solemnly declare I had not. Not that I believe Deville always equally successful, or in any respect infallible in his estimates; but I believe him to have been a very different and superior phrenologist to those ordinarily pretending to such skill in reading the character and talents of individuals. Something there may be in such phrenological views, however little, but what purely arises out of the conformity of outward features and organization to habitual character and pursuits. I never saw Deville again after this short interview till nearly two years after at the Duke of Sussex's, when His Royal Highness had invited me expressly to the palace at Kensington, to meet Mr. Babbage and one or two other gentlemen of eminence—I believe Mr. G. Children was another—to examine and test the calculating and mnemonical powers of Gustave Adolphe Basslé, a youth of twelve years of age from Belgium, and Mangiamele a Sicilian shepherd-boy of thirteen or fourteen years of age, with a head strikingly resembling the representations of Raphael—the former more remarkable for his memory, the other for his calculating faculty. Deville instantly recognised me, and said, "Ah! I was right in some part of my opinion at least."'

INDEX.

ADMIRALTY charts, Great excellence and importance of, 276.
Arrowsmith, his good maps, 290.
Astronomy, Immeasurable delight and instruction afforded by a right contemplation of, 114; rise and progress of modern, 113.
Astronomical observations, Value of self-control, habit, patience, attention in, 109.
Audax omnia perpeti, the highroad to victory, 334.
Australia, Northern, Value of Chinese labour for, 246.

Beaufort, Admiral, takes up his proposal for institution of a Government Topographical Office, 275; commendation of Lieut.-Colonel J.'s maps, 277.
Beni bu Alí, Expedition to, 15
Bernatz, J. M., records his having been chosen by Captain J. as artist to expedition to Abyssinia, 316.
Bible, Our individual and collective obligations to the, 119; address before the Naval and Military Society, 122.
Blondel, Colonel, facilitates his study of the organization of the Dépôt de la Guerre, 279.
Booksellers, printers, clockmakers, scarcely to be met with in India outside the Presidencies, 183.
Broughton, Lord, takes up his plan for institution of a Government Topographical Office, 276.
Bureau Topographique Fédéral Suisse at Geneva, Lt.-Col. J. inspects the organization of the, 264.
Burnes, Sir Alexander, records his having been instructed in use of scientific instruments under Captain J., 215; and the pilot, 186.

Candy, Rev. G., on the death of Rev. Mr. Valentine, 152.
Colonies, Aborigines and occupants of the, to have equal rights to colonists, 234; intemperance introduced among aborigines more fatal than war or pestilence, 234; territorial rights to be acquired by a fair equivalent to the legitimate possessors, 234; useful plants and animals to be introduced into the, 235; dromedary and Hurkárú camel suited for initiating postal service in the, 238; a vast field for production of raw materials for Great Britain, the workshop of the world, 240.
Colonization, Contrasted retrospect of, during thirty years' war and thirty years' peace, 232; improperly considered during first half of century, 231.
Convict settlement, Proposal of instituting a, at peninsula of Valdez, in place of New South Wales, on account of injury to colonists, 241.
Correspondence with his family: Attachment of Indian servants to their masters as putting Christians to shame, 95; cheerful obedience inculcated, 93; Christianity an active, cheerful principle of exertion and charity, 80; Dhanjibhai and Hormazdji, the Parsí converts, 66; how the belief in the transmigration of souls may have originated, 75; intellectual capacities of the animal creation and man compared—this last contrasted with the capacity of God, 97; intellectual truth acquired by accurate study, Divine truth imparted alone by the Holy Spirit's teaching, 76; little birds carol in the height of the storm at sea, 77; love to God to mark our earliest days, 69; Mrs. Wilson's orphan school at Agurpará, 88; our present pursuits will expand into greater sphere of action in eternity for good or evil, 81; punctuality a great recommendation, 84; success in life due rather to perseverance than genius evinced in youth, 79; the one-syllable book, 72; there are not two authors of natural and spiritual things, 68; value of com-

mitting sacred poetry to heart, 96; vegetation on the banks of the Hugli, 77.
Correspondence, Private: with Rev. John Punnett—on the disturbed state of Europe in 1851, 313; foreshadows Napoleon III. as the master-mind to grasp the position, 313; *κυρίακον δεῖπνον* and *κυριακὴν ἡμέραν*, 312; with Rev. Dr. O. Tancock—on importance of Hebrew concordance for study of Bible, 304; with Rev. Dr. John Wilson—presages great events on the political horizon, 162; his view of Antichrist, 136.
Correspondence on scientific, educational, and professional subjects: Proposes to Lord Aberdeen the institution of a depot of geographical maps under the Foreign Office (1846), 269; with Admiral Beaufort, with reference to his appointment as Director of Topographical Depot, 283; with Lord Ellenborough, recommending the introduction of system of Irish Survey into India, 212; with Lord Hardinge, on the educational objects for India of his lithographic press, 171; proposal of Post-Office orders for India (1845), 177; with Prof. Lloyd, on magnetic observations for India, 203; with Duke of Newcastle, urging necessity of a Government map office under the War Department, 270; with Lord Panmure, on the same subject, 280; with Sir Charles Trevelyan, on the same subject, 270.
Court of Directors award Captain J. a donation for valuable services, 201; nominate him provisionally Surveyor-General of India, to succeed to Major Everest, 200.
Crimean War, flank march by Mackenzie's farm, from information on Major J.'s map, recorded in Lord Raglan's despatch, 280.

D'Anville, eminent geographer, 254.
Davis, British Envoy to China, his opinion of Major J.'s plan of Peking, 55.
Dépôt de la Guerre, He inspects the organization of the, 48, 278.
Ducros, Admiral, facilitates his study of the organization of the Dépôt de la Marine, 277.
Education of his children, Memorandum on the principles he adopted in the, 63.
Elphinstone, Hon. Mountstuart, Governor of Bombay, 19.
Emigration to Australia fifty years ago, Evils of female, 227.
Eternity, Feeble conception of, afforded by study of the nebulæ, 114.
Everest, Colonel G., his eminent scientific services in measuring the arc of the meridian, 23; value of his triangulation, 206; letter to Major J., 213; alters his mind about retiring from the service, 217.

Faraday, Characteristic modesty, 325.
Females, Disastrous effects of neglected education of, 134.

Geographical riddle, His solution of a, 324.
Government map office intended to furnish authoritative information, and raise standard of British maps, 285; not to injure private enterprise, 277.
Grant, Sir Robert, Governor of Bombay, his eulogy of Captain J.'s Topographical and Statistical Survey of the Konkan, 42.
Gratitude, a word untranslatable into any Asiatic tongue, 119; the Bible worthy of our, 119.
Greenough, G. B., his opinion of the execution of Major J.'s maps, 220.

Havelock, Sir Henry, Meeting with, at Cape Town, 47.
Herschel, Sir John, on the institution of magnetic observations in India, 211; how he ran away with Major J.'s hat, 304.
Hindu, The, the policeman, and Major J., 332.
Hormazdji, Parsi convert, 164.
Hume, Joseph, approval of his proposal for establishment of a Government Topographical Office, 270.

India, Aborigines of, capacity for improvement, 180; abuses of intercourse of Europeans with Asiatics as regards public moneys, reformation of, 43; his advocacy of education in, in contradistinction to mere instruction, 167; education

to be imparted to *all*, without distinction of nationality, caste, or sex, 181; educational publications for, to be of the highest order, and very cheap, 189; no individual, however obscure, to be beneath the consideration of Educational Board, 179; rational education instead of senseless learning by rote of native schools of the Konkan, 167; no public servant but police messengers to be admitted without requisite of elementary education, 32; code of instructions drawn up by him for schools of Bombay native army, 33; introduces the Lancasterian plan into schools in the Konkan, 31; English schools to be confined to the Presidencies and chief towns of, 182; the instruction there given should be of highest order, 182; females the grandest instrument of national education, 184; female emancipation by means of vernacular books, 186; female education advocated, 186; this should be limited to the home system, 186; geography of, scant notions, as existed sixty years ago, 21; illustrations for vernacular publications should be of the very best kind, 191; one English text to serve for all the schools of India, with translations into the different languages, 189; instruction in, diffusion of elementary, morality, useful European science, calculated to shed lustre on British rule, 170; religious instruction not the province of Government, 31; Irish Survey under Colonel Colby, his system recommended as a model for Indian Survey, 207; knowledge, elementary, of languages, science, history, by means of tabulated schemes, 187; lithography, its suitability for Oriental languages, 172; magnetic observations, efforts in behalf of, 201; maps rapidly worm-eaten and destroyed in climate of, 195; pictorial wall-tables and maps advocated for native schools, 187; power exercised in Indian Courts by educated females, 185; salt, manufacture of, introduced on large scale on the strength of his report, 20; salt lands of Pen and Wansí, drained in pursuance of his report, 21; survey of, he urges on Court of Directors the importance of publishing the Revenue and Geographical, 206; topographical, revenue, statistical, geological, should be all placed under same directors, 206; schools in, difficulties thrown by caste in the way of exacting fees from certain classes of community, 168; description of orphan school at Agurpará, 88; eulogy of Dr. Duff's mission school at Calcutta, 182; tides, correspondence relating to registration of observations on the, 182, 199; wall-tables for teaching vernacular languages, 188; voluntary participation of natives in expense of public works, 19; weights and measures of, his essay on the primitive universal standard of, 45; work by deaf and dumb orphan scholars at Agurpará, 88; vernacular languages, works translated into the, fittest educational means, 180; zinc, he sends out to India perforated sheet, as substitute for glass for windows, 224; Indian words, necessity of systematic orthography in expressing, in European languages, 254; Indian Empire, admirable administration and wise government of, 247; magic growth of the, 247.

'Indians, Old,' 29.

Jacob, Major W.; letter from, 310.

Jervis, Colonel George, head of Bombay Government lithographic press, 172; translations of mathematical publications, 33, 184.

Jervis, John, Assistant-Resident in Ceylon, 2.

Jervis, Admiral John, Earl St. Vincent, 10, 123.

Jervis, Mrs., draws the indigenous flora of Western India, 42; her marriage, 37; life as a widow, 267; 'Mother of the Naples Bethel,' 267; decease, 267.

Jervis, Thomas Best: Appointed to select proper philosophical instruments for the Elphinstone Institution, Bombay, 197; affection for his aged aunt, Miss Jervis, 6; brought up at classical school, Richmond, 4; at East Indian Company's Military College, Addiscombe, 5; builds church at Belgaum,

39; conference with Duke of Newcastle and Lord Raglan at Treasury, respecting war maps, 280; co-operation with Association for the Discouragement of Duelling, 51; describes his lithographic establishment, 147; designs and builds the General Assembly's Institution, Bombay, 49; describes the same, 144; devises a Post-Office money order for India, as a safeguard against fraud, murder of moneyed travellers and thuggi, and sends lithographed forms of same to Government of India, 54, 177; devises and lithographs comprehensive forms for use of Indian navy, 176; examines native students of Engineering Institution, Bombay, 33; duel, prevents a, 136; follows Rennell's estimable geographical system, 171; forms a private lithographic establishment at his house, in furtherance of geography and education in India, 53; first meets Miss Anne Sarah Paget at farewell entertainment to Governor of Bombay, 35; happy marriage, 57; his ardent struggle to popularize geography by means of accurate large-scale maps, 272; his character, 322; his cycloidal projection for maps, 254; his impression of Alpine scenery, 100; his interview with Emperor Napoleon III. at palace of St. Cloud, at time of Crimean War, 260; his love for botany, 44; introduces new living plants from England into India, sends home new Indian plants, 68; introduces Californian coniferæ into France, 315; is elected F.R.S., F.R.G.S., F.R.A.S., F.G.S., and member of Athenæum Club, 47; lectures on physical geography and astronomy, 56; one of the three founders of Bombay Military Fund, 44; passes the nights at Sir James South's observatory, Kensington, 48; provisionally appointed Surveyor-General of India, to succeed to Colonel Everest, 200; reminiscences of flora of Cape of Good Hope, 74; report on the weights and measures of the Konkan, 17; report on the state of native instruction in the Konkan, 18; returns to England on furlough, 46; returns again to India, 48; retires from service in India, 50; selects scientific apparatus for mission station, Nagpúr, 197; sails for India in same fleet with Dr. Coke, first missionary to Bombay, 9; sent to England as an orphan child, under guardianship of Chief Justice Jervis, 3; takes up lithography in India, 33; urges upon Bombay Government the economy and greater accuracy of lithographing maps rather than having them copied by hand, 215; urges upon H.E.I.C. the importance of exploring the countries between British India and the Caspian, 271; decease in London, 265; burial at St. John's Church in the Wilderness, Exmouth, 265.

Jervis, Thomas Best, Publications of: 'Geographical and Statistical Memoir on the Konkan,' 41; 'Hindu Chronology,' 44; English translation of Baron Hügel's 'Travels in Kashmir and the Panjáb,' 54; 'Records of Ancient Science,' 45; Map of Bokhara, 55; Plan of Bombay Island, 55; Map of the Duskroi Pergunnah, 55; Plan of Peking, 55; Military Map of the Crimea, 258; rapid reproduction of Austrian Map of Turkey and Greece, 258; Sketch Map of Countries bordering on Black Sea and Caspian, 296; Military Map of the Kaukasus, 297; Map of Moldavia, 297; Map of the Aland Islands, 297; Treaty Map of Europe, in extension of that of General Haxo, 297.

Johnston, A. K., his good maps, 290.

Keith, Rev. Dr. A., on Northern Boundary of Covenanted Land, 159.

Konkan, approbation of Government of his revenue and statistical paper on the, 18; as civil engineer erects various buildings for Government in the, 7; appointed to take charge of and repair forts in the, 10; first census taken by him, 35; Government eulogy of his maps, 42; by Lord Clare, 42; by Sir Robert Grant, 42; Native School Society of Southern, founded by him and a few friends, 19; studies

natural productions of, 38, 41; Statistical Survey of, 15, 24; Trigonometrical and Geographical Survey of, made by him, 24; Topographical and Statistical Atlas of, 26.
Krishná Banergia, first suggestion of Zenana teaching, 165.

Lambton, Colonel, commences great trigonometrical survey of India, 23.
Lithographic establishment of Government, takes charge of, 33.
Louvois founds Dépôt de la Guerre, Paris, 279.
Lowell, Rev. Dr., his companion through desert of Egypt, 64.

Madagascar, Importance of appointing Consul-General in, 246.
Maps, Good British, still rare in first half of century, 273; indebtedness of geography to Rennell, Beaufort, Smyth, Arrowsmith, Johnston, for good, 290; paucity of good, ascribed to want of a Government geographical office and Government initiative, 290.
Matthieu, Admiral, affords him assistance in studying organization of the Dépôt de la Marine, 279.
Miles, General William, eminent Orientalist, his works, 158.
Missions, Unanimity essential to efficiency of, 146.
Missionaries, their noble mandate, 131; Christ the first, 121.
Mitchell, Rev. Dr. Murray, thanks for help, vi; on General Assembly's Institution, Bombay, 161; records his affection for T. B. Jervis, 321
Money order offices in British colonies and in India for transmitting money home, proposed in 1849, 54.

Napoleon III., Emperor, approves Lt.-Col. J.'s proposal for institution of a map depot under the War Department, 281; 'I can govern the French people, but I dare not interfere with the Parisian watercarriers,' 261; testimonial to Lieutenant-Colonel Jervis in appreciation of his services to French army during Crimean War, 261.
Nelson, R., late Judge Bombay C.S., Letters from, 301, 302.
Newcastle, Duke of, records Major Jervis's varied attainments, 282.
North British Review, Article in review of his translation of Baron Hügel's 'Travels,' 155.

Ordnance Survey of England at Bromsgrove, Works on the, 6.
Ordnance Survey of Ireland, Studies the organization of, 205; proposes a somewhat analogous system for survey of India, 206.

Panmure, Lord, institutes the Topographical and Statistical Depot under War Department, 282; nominates Major Jervis Director and Organizer, 282.
Pelly, J., commendation of wise and humane treatment of Lieutenant J.'s workmen, 13.
Plants of India, Indigenous useful, recommended to be acclimatized in colonies, 235
Pouget, Major Robert, testimony of Captain J.'s zeal, 26.
Prince Albert, the first subscriber to Major J.'s private geographical undertakings, 55; interviews with, 55.
Punnett, Rev. John, on Romanizing tendencies, 309; on British and Foreign Bible Society's work, 309; on the occasion of Lieut.-Col. Jervis's death — 'A full man, a ready man,' 319.

Queen Victoria authorizes Major Jervis to dedicate all his geographical publications to her, 55; visits his model of Sevastopol at the Topographical and Statistical Depot, 295.

Raglan, Lord, Commander-in-Chief of Forces in the Crimea, conclusively admits Major J.'s views respecting institution of a Government Topographical Depot, 281; mentions service rendered by Major J.'s map in flank march from the Alma to Balaklava, 280.
Receipt stamps, Proposal of penny, in 1849, as constituting a charge, not a tax, 243.
Religion and science referable to one only Author and Original, 105.
Rennie, George, C.E., opinion of execution of lithography at Major J.'s private press, 221.

Rennell, Major, taught us how geography ought to be studied, 254; his correct maps, 290.
Ross, Sir John, on magnetic observations, 206.
Royal Asiatic Society, Council of, opinion of Major J.'s maps and lithography, 223.

Science the investigation of truth in the natural world, 102.
Slate discovered by Captain J. near Kaludji, 38; slate quarries opened out by him, slate employed by him for roofing powder-magazine and church, Belgaum, and made into pencils, 39.
Smyth, Admiral, takes up Lt.-Col. J.'s proposal for institution of a Government Topographical Depot, 276; excellence of his maps, 290.
Stamp duty, Progressive, on cheques and railway tickets, proposed by him in 1849, in lieu of taxation, 243.
Sykes, Colonel, eulogy of lithographic productions of Major J.'s private press, 223.

Tancock, Rev. Dr. O., on authenticity of Septuagint version, as quoted by our Lord and His Apostles, 307.
Tate, Captain W., on survey of Bombay Island, 210; advantage and economy of employing native surveyors for detail work, 210; affection of natives of India for their superiors, 211.
Topographical and Statistical Depot, War Department (now Military Intelligence Division): Instituted by Lord Panmure, 282; nominates Lieut.-Colonel J. Director and Organizer, 282; Lieut.-Colonel J.'s report to War Department, delineating the ulterior purpose of the, 284; its importance in training staff officers, 286; its importance in promoting private enterprise, effected by liberal publicity, 285; all maps there prepared to be on uniform projection, of same scale, employing systematic orthography, 285; should subserve the general military, political, commercial, and educational interests of the kingdom, and advancement of scientific inquiry, 285.
Trevelyan, Sir Charles, advocate of native education, 183.
Twilight, dawn, and perfect day, emblem of the advancement of our intellectual powers, 78.

Ufficio Topografico Militare of Sardinia, at Turin, He inspects organization of the, 264.

Vaillant, Marshal, warmly approves his proposal for institution of an office under War Department analogous to Dépôt de la Guerre, 278; thanks him for plants of Californian coniferæ, 315.
Van de Kasteele, the Misses, Letter from, 310.

Washington, Admiral, appreciation of Captain J.'s services to geography, 213; promotes good cheap maps, 273.
Weights and measures, A correct standard of, the foundation-stone of security, 41; facility and importance of introducing a uniform standard of, in India, 44; primitive universal standard of, the mean length of seconds pendulum in Lat. 45°, 45.
Wellington, Duke of, how he encouraged the measurement of the largest meridional arc ever undertaken, 274.
Wilkins, Rev. George, funeral sermon on Lieut.-Colonel J., 266.
Wilson, Rev. Dr. John, announces completion of his 'Lands of the Bible,' 159; letter on occasion of death of Lieut.-Colonel J. ('He was long one of my best and dearest and most-valued friends'), 320.
Wolferstan, E. P., letter of counsel to Ensign J. on his embarking for India, 6.

THE END.

Elliot Stock, 62, Paternoster Row, London.

XX K 68 23954
923.542 23954
Jer/Jer/Tho
Thomas Best Jervis

3 2330 121/15 3.1
Note 1115120 13/5/2

1815170

00023954

Digitized with financial assistance from



H T Parekh FOUNDATION

An Initiative by HDFC WITH YOU, RIGHT THROUGH

on 15 October, 2018